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Cover Page Footnote
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SUITS BY PUBLIC HOSPITALS TO RECOVER EXPENDITURES FOR THE TREATMENT OF DISEASE, INJURY AND DISABILITY CAUSED BY TOBACCO AND ALCOHOL

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I. Introduction

Substance abuse has reached historical proportions during the twentieth century.[1] Having no financial accountability for the con-

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** Professor of Law, Emory University; B.A., 1964, Washington and Jefferson College; J.D., 1967, Vanderbilt University; LL.M., 1968, S.J.D. 1979, University of Wisconsin. We appreciate the research assistance of Jeffrey D. Mokotoff. Mistakes are ours, however.

*** Attorney, Centers for Disease Control and Prevention; B.S., 1982, University of Toledo; M.P.H., 1986, University of Illinois; J.D., 1990, Emory University. Mr. Willis co-authored this Article in his private capacity. No official support or endorsement by the Department of Health and Human Services is intended or should be inferred.

1. *See* INSTITUTE FOR HEALTH POLICY, BRANDEIS UNIVERSITY, ROBERT WOOD JOHNSON FOUNDATION, SUBSTANCE ABUSE: THE NATION'S NUMBER ONE HEALTH PROBLEM 9-13 (1993) [hereinafter ROBERT WOOD JOHNSON FOUNDATION REPORT]; R. T. Ravenholt, *Tobacco's Impact on Twentieth Century U.S. Mortality Patterns*, 1 AM. J. PREVENT. MED. 4, 4 (1985); John Slade, *The Tobacco Epidemic: Lessons from History*, 21 J. PSYCHOACTIVE DRUGS 281, 281 (1989). Four industries produce financial burdens on public hospitals and other health care infrastructures in America: alcohol, tobacco, firearms and illicit drugs. *See* Michael J. Martin et al., *The Cost of Hospitalization for Firearm Injuries*, 260 JAMA 3048, 3050 (1988); AMA Council on Scientific Affairs, *Firearm Injuries and Deaths: A Critical Public Health Issue*, 164 PUB. HEALTH REP. 111-120 (1989); Nancy Gibbs, *Up in Arms*, TIME, Dec. 20, 1993, at 21; Claran S. Phibbs et al., *The Neonatal Costs of Maternal Cocaine Use*, 266 JAMA 1521, 1525 (1991); *Cocaine Infants May Cost $500 Million Annually*, THE NATION'S HEALTH, Nov. 1991, at 16. These industries are often insulated from accountability for health care costs by shifting blame to the consumer, by clandestine trade, or by a combination of both. *See, e.g.*, Patricia A. Morgan, *Power, Politics and Public Health: The Political Power of the Alcohol Beverage Industry*, 9 J. PUB. HEALTH POL'Y 177, 189, 192 (1988); Shaheen Borna, *Illegal Products and the Question of Consumer Redress*, 8 J. BUS. ETHICS 499, 500 (1989). All four harmful products impose severe burdens on public hospitals and interact in many ways. *See infra*, Part II.C. For example, alcohol and tobacco, both independently and combined, are recognized as "gateways" to illicit drugs, each accounting for initiating and perpetuating 15% of illegal drug use. *See infra* note 29. While more difficult to quantify than direct health care costs, these indirect costs will be considered further as destabilizing influences on public hospitals and society as a whole.

sequences of their marketing of harmful products to vulnerable populations,[2] alcohol and tobacco industries contribute to and exacerbate societal epidemics that propagate throughout society and the health care system.[3] The economic burden of treating medically indigent patients[4] for readily preventable diseases threatens to bankrupt the entire health care system.[5] As economically vulnerable and medically indigent populations expand,[6] fewer resources are left for disease prevention and other necessary reforms

2. Vulnerable populations are identifiable groups whose health is at risk for preventable disease and whose communities are at risk for social disruption. LU ANN ADAY, AT RISK IN AMERICA: THE HEALTH AND HEALTH CARE NEEDS OF VULNERABLE POPULATIONS IN THE UNITED STATES 1, 4-5, 10 (1983). Without financial accountability for the consequences of marketing an intrinsically harmful product, marketing advantage accrues to strategies that target the heaviest consumers, who tend to be the most vulnerable to illness and the least likely to have medical insurance.

3. *See* Rodrick Wallace et al., *Family Systems and Deurbanization: Implications for Substance Abuse, in* SUBSTANCE ABUSE: A COMPREHENSIVE TEXTBOOK 948 (Joyce H. Lowinson et al. eds., 2d ed. 1992); ALICE S. BAUM & DONALD W. BURNES, A NATION IN DENIAL: THE TRUTH ABOUT HOMELESSNESS 5-6 (1993); GEORGE E. VAILLANT, THE NATURAL HISTORY OF ALCOHOLISM 1 (1983); JAMES J. COLLINS, JR., *Alcohol Careers and Criminal Careers, in* DRINKING AND CRIME: PERSPECTIVES ON THE RELATIONSHIPS BETWEEN ALCOHOL CONSUMPTION AND CRIMINAL BEHAVIOR 152, 159 (James J. Collins, Jr. ed., 1981).

4. Medically indigent patients are defined as hospital clients without private health insurance, Medicare, workman's compensation coverage, or similar sponsored care. Hospitals receive substandard reimbursement for treating medically indigent patients, typically through Medicaid, partial patient billing, bad debt, or charity care. *See* AMERICAN HOSP. ASS'N, OFFICE OF PUBLIC POLICY ANALYSIS, UNCOMPENSATED AND UNSPONSORED HOSPITAL CARE: A FACT SHEET (1990).

5. President Bill Clinton has noted the huge drains on our health care system caused by alcohol and tobacco. Lee P. Brown, Clinton's director of the Office of National Drug Control Policy, noted the adverse effects of substance abuse on communities: "Drugs continue to threaten to break apart society. No parent addicted to drugs or alcohol can adequately care for a child. No child so afflicted can adequately learn in school. . . . No effort in housing or employment or education or public safety will fully succeed until the target populations are free of drugs and alcohol addiction." BREAKING THE CYCLE OF DRUG ABUSE: 1993 INTERIM NATIONAL DRUG CONTROL STRATEGY, OFFICE OF NATIONAL DRUG CONTROL POLICY 2, 7 (Sept. 1993) [hereinafter BREAKING THE CYCLE]. Joseph Califano, the former Secretary of Health and Human Services, has noted that substance abuse is "destroying families, driving up health care costs, overwhelming the education, criminal justice and social systems of this nation, and contributing to an unprecedented wave of violence and homelessness." *Substance Abuse is Blamed for 500,000 Deaths*, N.Y. TIMES, Oct. 24, 1993, at A11.

6. Emily Friedman, *The Uninsured: From Dilemma to Crisis*, 265 JAMA 2491, 2491 (1991); Ralph Regula, *National Policy and the Medically Uninsured*, 24 INQUIRY 48, 49 (1987).

of an increasingly inefficient, reactive and overburdened health care system.[7]

Public hospitals[8] are staggering under this massive burden of illness caused by tobacco and alcohol.[9] Public hospitals are forced to absorb the treatment costs and medico-legal risks for medically indigent patients,[10] including those whose alcohol and tobacco consumption leads predictably to illness. Ironically, public hospitals are forced to subsidize commerce in harmful products by absorbing the costs of the products' health consequences. This contradicts the hospitals' own interests in preventing disease, improving the efficiency of therapy, competing with other hospitals for insured patients and minimizing their own financial losses. The system of public hospitals, which has been described recently as "an unraveling safety net,"[11] can ill afford the onus of subsidizing the immensely profitable and harmful tobacco and alcohol industries.[12]

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7. BREAKING THE CYCLE, *supra* note 5, at 2, 7; Howard E. Freeman et al., *Uninsured Working-Age Adults: Characteristics and Consequences*, 24 HEALTH SERV. RESEARCH 811, 815 (1990).

8. Public hospitals are defined as short- and medium-stay inpatient facilities (and associated outpatient clinics) serving predominately disadvantaged, underinsured patients, whose care is reimbursed, if at all, primarily through lower-paying government sources, such as Medicaid and Medicare. Specifically excluded from this definition of public hospitals are long-term care facilities, such as nursing homes and extended care facilities, which do not suffer economic losses when their patients die prematurely.

Hospitals in the United States provide $6-8 billion a year in medical care to indigent patients. As a "national health insurance of last resort," public hospitals absorb a vastly disproportionate share of this cost burden. *See* FRANK A. SLOAN, ET AL., UNCOMPENSATED HOSPITAL CARE: RIGHTS AND RESPONSIBILITES 20 (1986); Emily Friedman, *Hospital Compensated Care: Crisis?*, 262 JAMA 2975; Emily Friedman, *Public Hospitals: Doing What Everyone Wants Done But Few Others Wish to Do*, 257 JAMA 1437 (1987)(history of public hospitals); Robert L. Ohsfedlt, *Uncompensated Medical Services Provided by Physicians and Hospitals*, 23 MED. CARE 1338 (1985). Public hospitals are legally obligated to provide health care regardless of ability to pay. Margaret G. Farell, *Legal and Ethical Issues in Regulation of Health Care*, *in* 1 BIOLAW 333-78 (James F. Childress et al., eds. 1986).

9. For example, an estimated 25-40% of hospitalizations are for complications of alcoholism. Constance Holden, *Alcoholism and the Medical Cost Crunch*, 235 SCIENCE 1132, 1132 (1987).

10. *See* E. Haavi Morreim, *Cost Containment and the Standard of Medical Care*, 75 CAL. LAW REV. 1719, 1725 (1987); E. HAAVI MORREIM, BALANCING ACT: THE NEW MEDICAL ETHICS OF MEDICINE'S NEW ECONOMICS (1991).

11. *See* Carol B. Emmott & Christine Wiebe, *The Unraveling Safety Net: Without Help, Public Hospitals Will Not be Able to Continue Caring for the Poor and Uninsured*, 3 ISSUES SCI. TECH. 51 (1989).

12. *See* Robert Burns et al., *Mortality in a Public and a Private Hospital Compared: The Severity of Antecedent Disorders in Medicare Patients*, 83 AM. J. PUB. HEALTH 966 (1993); Helen R. Burstin et al., *The Effect on Hospital Financial Characteristics on Quality of Care*, 270 JAMA 845 (1993); Troyen A. Brennan et al., *Hospital Characteristics Associated with Adverse Events and Substandard Care*, 265 JAMA

The economic viability of public hospitals is essential to the health of all Americans, even those wealthy enough to afford care elsewhere. For example, the alarming epidemic growth of tuberculosis in indigent patients threatens virtually everyone in the population, through spread by casual contact with subclinical or incompletely treated cases.[13] Similarly, large and growing epidemics such as antibiotic resistance of the tuberculosis bacteria, violence, addiction, child abuse, broken families, homelessness and mental illness—problems to which alcohol, at least, contributes directly[14]—pose new threats to the entire population.

Under severe economic pressures, public hospitals and related health care infrastructures are failing to stem these threats.[15] Clearly, the importance of public hospitals in controlling these health problems exceeds that of maintaining the profitability of alcohol and tobacco industries in marketing harmful products.

On a fundamental level, public hospitals represent a "plaintiff harmed by an epidemic".[16] The concept of an epidemic as the source of economic injury in tort law reconciles scientific methods and legal evidence in a new way.[17]

Public hospitals have passively transferred the costs of treating medically indigent patients to the public. Little attention has been given to the possibility of shifting these enormous costs from the shoulders of the public hospitals and society at large back to the

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3265 (1991); Jack Hadley et al., *Comparison of Uninsured and Privately Insured Hospital Patients: Condition on Admission, Resource Use, and Outcome*, 265 JAMA 374 (1991).

13. Tuberculosis can occasionally be spread by casual contact, via infectious droplets aerosolized by coughing, sneezing, or even talking. Barry R. Bloom, Christopher J. L. Murray, *Tuberculosis: Commentary on a Reemergent Killer*, 257 SCIENCE 1055, 1058 (1992); Richard M. Krause, *The Origin of Plagues: Old and New*, 257 SCIENCE 1073, 1074 (1992).

14. COMMITTEE ON HEALTH CARE FOR HOMELESS PEOPLE, INSTITUTE OF MEDICINE, HOMELESSNESS, HEALTH, AND HUMAN NEEDS 60-61 (1988).

15. Judith R. Rudnick et al., Are U.S. Hospitals Prepared to Control Nosocomial Transmission of Tuberculosis?, Presented at the Epidemiology Intelligence Service Conference at Centers for Disease Control and Prevention 60 (April 21, 1993) (abstract on file at CDC).

16. An epidemic may be defined as an increase in the frequency of a specified disease above an expected ("baseline") level. *See* CHARLES H. HENNEKENS et al., EPIDEMIOLOGY IN MEDICINE 9 (1987). By this definition, an epidemic can be either large or small (although small epidemics would usually be difficult to detect and less consequential in terms of economic impact). The epidemics caused by alcohol and tobacco are extremely large, see *supra* note 1, and accompanying text; thus, the intuitive notions of "epidemic" and its formal definition coincide.

17. *See infra* IV.C especially note 213.

manufacturers and sellers of tobacco and alcohol.[18] The goal of this Article is to examine some of the critical issues raised in considering such a reassignment of costs through litigation.[19]

Part II will discuss some of the harms and costs attributable to alcohol and tobacco abuse. Part III will discuss the historical and economic considerations in order to establish the foundation for our proposed solution. Finally, Part IV will analyze various legal principles and apply them to the problem described in the previous sections. This Article asserts that an examination of the medical, social, historical, economic and legal factors dictates that a cause of action against alcohol and tobacco manufacturers should be available to public hospitals to recover their expenditures for the uncompensated medical treatment that is necessitated by alcohol and tobacco abuse. As with most preliminary examinations, this Article presents more questions than answers. The goal is not to be definitive, but rather to begin describing the extent and urgency of harm inflicted by alcohol and tobacco manufacturers on overburdened public hospitals, and to propose a legal remedy.

II. Harm Caused by Tobacco and Alcohol Abuse

Alcohol and tobacco industries impose economic burdens on public hospitals by causing concurrent epidemics of disease, and by reducing the financial abilities of individual consumers, public hospitals and society to cope with the resulting health care costs. To assess the dynamics of these imposed burdens, one must consider the cumulative effects of (i) the extent and severity of illness; (ii)

18. One of the reasons for the present lack of attention given to the problem of shifting costs to the manufacturers is the Clinton Healthcare Plan. A quick search on Nexis under the term "Clinton Health Plan" will produce more than 1,000 documents concerning that topic. The government, through Clinton's plan, would shoulder the costs of healthcare, not the manufacturer of alcohol and tobacco. The size of the "new" tobacco tax has not been negotiated.

19. The public hospital is the preferred plaintiff because it bears the costs of treating disease and illness caused by alcohol and tobacco, but experiences no economic benefit when a smoker or alcohol abuser dies young. In contrast, the manufacturers of these products will argue that the state benefits economically when the addict dies at a young age:

> But there's another side to the story. It's ghoulish to be sure, but economists are used to facing ugly truths: Smokers also die young, so they don't recoup as much as non-smokers in Social Security, Medicare and other programs for the elderly, even though they pay as much into these programs during their working years.
>
> And smokers who die quickly of a heart attack don't deplete society's resources by hanging on for years in a nursing home at the public's expense.

Jonathan Marshall, *Smokers Paying Their Way*, S.F. CHRON., Aug. 29, 1994, at D1.

the associated treatment costs (also considering lost opportunities for preventing disease);[20] (iii) the economic impairment that results from injuries to consumers or bystanders, and the reduced treatment capacity of the public hospital; and (iv) the resulting cutbacks in indigent health care and public health outlays. Therefore, a consideration of the cumulative costs and related trends for consumers, bystanders, public hospitals, and society as a whole follows.

A. Costs Incurred by Consumers

One-third of the U.S. population is addicted to tobacco and one-tenth to alcohol, with prevalence trends most unfavorable in low-income populations served by public hospitals.[21] Many diseases, injuries and subsequent medical costs are related to substance abuse. Tobacco contributes to 418,000 premature deaths annually, over 15% of the national total,[22] and alcohol to 108,000 deaths annually, or 5% of the total.[23] People who smoke cigarettes can develop cancer of the lung, larynx, oral cavity and esophagus.[24] In addition, fires in homes are often caused by cigarettes. Long-term alcohol consumption may lead to heart and liver disease.[25] Excess alcohol consumption is a major cause of accidents. For example, alcohol-related falls represent between 17% and 53% of deaths attributable to falls.[26] Excess drinking is also a factor in a large number of injuries related to automobile accidents.[27] Of course,

20. For example, small expenditures to prevent alcohol and tobacco abuse result in large cost savings to society. *See* Richard M. Scheffler & Lynn Paringer, *A Review of the Economic Evidence on Prevention*, 18 MED. CARE 473, 477-478 (1980).

21. ROBERT WOOD JOHNSON FOUNDATION REPORT, *supra* note 1, at 1.

22. *Id.*

23. *Id.*

24. *See* U.S. DEP'T OF HEALTH, EDUC. & WELFARE, THE HEALTH CONSEQUENCES OF SMOKING: A PUBLIC HEALTH SERVICE REVIEW 34, 135-38 (1967); ADVISORY COMM. TO THE SURGEON GENERAL OF THE PUBLIC HEALTH SERVICE, U.S. DEP'T OF HEALTH, EDUC. & WELFARE, SMOKING AND HEALTH 31 (1964).

25. In fact, Representative John Conyers and Senator Strom Thurmond introduced two bills into their respective houses of Congress. These bills were the precursor to the label currently placed on all alcoholic beverages. These two bills contained the same five warnings. One of them read as such: WARNING: The consumption of this product, which contains alcohol, can increase the risk of developing hypertension, liver disease, and some cancers. S. 2047, 100th Cong., 2d Sess. § 550 (1988); H.R. 4441, 100th Cong., 2d Sess. § 2 (1988).

26. *Id.*

27. In 1988, the House of Representatives reported that over twenty-four thousand Americans die each year in traffic accidents as a result of alcohol consumption. H.R. 4441, 100th Cong., 2d Sess. § 1(3). The Senate's estimates were somewhat lower, at 18,000/yr. Alcohol-related traffic accidents are among the leading causes of death among 15-24 year-olds. *The Alcohol Warning Labels Act: Hearings on S. 2047*

those injured by intoxicated drivers include passengers, bystanders and drivers of other cars.[28]

Severe alcohol and tobacco abuse, and the "gateway effects" to illicit drug abuse,[29] are more common among low-income populations.[30] Alcohol and tobacco-related diseases are the most common disorders found in hospitalized populations,[31] disproportionately affecting low income, medically indigent populations.[32] Abusers of alcohol and tobacco products are intensive users of

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Before the Subcomm. on Consumerism of the Senate Comm. on Commerce, Science, and Transportation, 100th Cong. 2d Sess. 24 (1988).

28. Injuries to bystanders due to drunk-driving has become one of the largest public and legal issues in the U.S.: "Whether alcohol manufacturers may be held liable for injuries suffered by individuals injured by drunk drivers has been the most litigated issue in the area of alcohol manufacturers' duty to warn." Carter H. Dukes, Note, *Alcohol Manufacturers and the Duty to Warn: An Analysis of Recent Case Law in Light of the Alcoholic Beverage Labeling Act of 1988*, 38 EMORY L.J. 1189, 1198 (1989). In addition, approximately one-half of all accidental deaths, suicides and homicides are alcohol related. S. 2047, 100th Cong., 2d Sess. § (a)(2) (1988); H.R. 4441, 100th Cong. 2d Sess. § 1(2) (1988).

29. The "gateway" theory hypothesizes that alcohol and/or tobacco abuse represents a "stepping stone" in a systematic progression toward the usage of illegal drugs. John W. Welte & Grace M. Barnes, *Alcohol: The Gateway to Other Drug Use Among Secondary-School Students*, 14 J. YOUTH AND ADOLESCENCE 487, 487 (1985). *See also* Denise Kandel & Kazuo Yamaguchi, *From Beer to Crack: Developmental Patterns of Drug Involvement*, 83 AM. J. PUB. HEALTH 851, 854 (1993); Eric Single et al., *Patterns of Multiple Drug Use in High School*, 74 J. HEALTH & SOC. BEHAV. 344, 346 (1974); Raymond Fleming, et al., *The Role of Cigarettes in the Initiation and Progression of Early Substance Abuse*, 14 ADDICTIVE BEHAV. 261, 269 (1989); G.J. Huba et al., *A Comparison of Two Latent Variable Causal Models for Adolescent Drug Use*, 40 J. PERSONALITY & SOC. PSYCHOL. 180, 191 (1981); Scott Menard & David Huizinga, *Age, Period, and Cohort Size Effects on Self-Reported Alcohol, Marijuana, and Polydrug Use: Results from the National Youth Survey*, 18 SOC. SCI. RES. 174, 192 (1989).

30. *See* Michael D. Newcomb & Peter M. Bentler, *Substance Use and Abuse Among Children and Teenagers*, 44 AM. PSYCHOLOGIST 242 (1989); Carol J. Mills & Harvey L. Noyes, *Patterns and Correlates of Initial and Subsequent Drug Use Among Adolescents*, 52 J. CONSULTING AND CLINICAL PSYCHOL. 231, 240 (1984).

31. Wesley B. Mason et al., *Why People are Hospitalized: A Description of Preventable Factors Leading to Admission for Medical Illness*, 18 MED. CARE 147, 155 (1980); J. Michael McGinnis & William H. Foege, *Actual Causes of Death in the United States* 270 JAMA 2207, 2207 (1993).

32. "[B]lacks, teenage girls and people with a high school education or less continue to pick up the habit . . . [T]he national Centers for Disease Control (CDC) said about 1.5 million Americans—mostly white, well-educated adults—kick the habit each year, but at least a million others—predominantly teenagers and women with less than a college education—join the ranks of smokers . . . The researchers said smoking habits have changed . . . from a widespread practice among all segments of American society to an addiction of poorly educated and low-income people . . . ." ATLANTA J. CONST., Feb. 21, 1987, at A-8, col. 1.

health services,[33] especially expensive emergency services.[34] Patients characteristically served by public hospitals—those living at poverty level, without medical insurance, and having inadequate social support—have the poorest prognosis for treating substance abuse and addiction.[35]

B. Costs Incurred by Third Parties

A significant and growing burden of alcohol and tobacco-related disease and disability is inflicted on third parties or bystanders who suffer from the harmful consumption patterns of others. For example, drunk driving causes 20,000 deaths annually in the United States (48% of all crash-related deaths).[36] In addition, alcohol-intoxicated and negligent smokers cause fires representing between 48% and 64% of all fire-related deaths.[37]

Another bystander harm associated with alcohol and tobacco abuse is the effect of these drugs on newborn infants.[38] The effects

33. HAROLD D. HOLDER, NAT'L INST. ON ALCOHOL ABUSE AND ALCOHOLISM, ALCOHOLISM TREATMENT IMPACT ON TOTAL HEALTH CARE UTILIZATION AND COSTS: ANALYSIS OF THE FEDERAL EMPLOYEES HEALTH BENEFIT PROGRAM WITH AETNA LIFE INSURANCE COMPANY 4 (1985); Christopher Zook & Francis D. Moore, High Cost Users of Medical Care, 302 NEW ENG. J. MED. 996 (1980); Enoch Gordis, *Accessible and Affordable Health Care for Alcoholism and Related Problems: Strategy for Cost Containment*, 48 J. OF STUD. ON ALCOHOL 579, 580 (1987); Donald K. Freeborn et al., *Smoking and Consistently High Use of Medical Care Among Older HMO Members*, 80 AM. J. PUB. HEALTH 603, 603-605 (1990). Minority and low-income populations are comparatively heavy users of cigarettes and alcohol. These populations also are more likely to use public hospitals. *See* Jonathan E. Fielding et al., *Prevalence and Characteristics of Employees Reporting Heavy or Problem Drinking*, 20 PREVENTIVE MED. 316 (1990).

34. *See* S.L. Putnam, *Alcoholism, Morbidity, and Care-seeking: The Inpatient and Ambulatory Service Utilization and Associated Illness Experience of Alcoholics and Matched Controls in a Health Maintenance Organization*, 20 MED. CARE 97, 106, 119-20 (1982); Mark Hauswald, *The Cost of Smoking: An Emergency Department Analysis*, 7 AM. J. OF EMERGENCY MED. 187, 189 (1989).

35. *See* Peter E. Nathan, *Outcomes Treatment for Alcoholism: Current Data*, 8 ANNALS BEHAV. MED. 40 (1986); Peter E. Nathan, *Alcohol Dependency Prevention and Early Intervention*, 103 PUB. HEALTH REP. 683, 684; Constance Holden, *Is Alcoholism Treatment Effective?*, 236 SCIENCE 20 (1987).

36. ROBERT WOOD JOHNSON FOUNDATION REPORT, *supra* note 1, at 35.

37. *Id.* at 34.

38. "In the last decade, there has been a dramatic increase in drug use by women of childbearing age. A survey conducted by the House Select Committee on Children, Youth and Families of 18 primary public hospitals in 15 major cities found a three- to four-fold increase in the number of infants exposed to dangerous drugs." Norman B. Duerbeck, *Prenatal Care - A Wise Investment: The Cost of Preventive Medicine is Small Compared to the Resources Required to Treat a Drug-Impaired Baby*, L.A. TIMES, July 18, 1993, at 22 [hereinafter *Prenatal Care*]. Dr. Duerbeck stated that the resources required to care for an alcohol or drug-impaired infant often reach hospitalization costs of more than $1500 a day. With the average stay for a drug

of alcohol and tobacco on the developing fetus and young child can create lifelong problems and require costly institutionalization. Alcohol and tobacco contribute prominently to low birth weight, prematurity, and intrauterine growth retardation,[39] for which neonatal intensive care costs for a single infant can easily reach hundreds of thousands of dollars.[40] These effects can be accompanied by birth defects, mental and/or attention deficits, slowed neurological and growth development, and permanent disability.[41] Fetal alcohol syndrome, a constellation of these clinical signs caused by maternal consumption of alcohol while pregnant, had a resurgence in the 1970s, having been present at various historical periods of severe alcohol abuse.[42]

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or alcohol-impaired infant lasting 14 days in neonatal intensive care, the cost is about $21,000 a baby. *Id.*

39. M.S. Kramer, *Determinants of Low Birth Weight: Methodological Assessment and Meta-Analysis*, 65 BULL. WORLD HEALTH ORG. 663, 710-11 (1987); Roger J. Simpson & N.G. Armand Smith, *Maternal Smoking and Low Birthweight: Implications for Antenatal Care*, 40 J. EPIDEMIOLOGY & COMMUNITY HEALTH 223, 225 (1986).

40. In the United States, maternal substance abuse causes at least 15% of cases of low birth weight, resulting in $1-2 billion annually in short-term health care costs. U.S. SEC'Y OF HEALTH AND HUMAN SERVICES, ALCOHOL AND HEALTH (1993) [hereinafter ALCOHOL AND HEALTH]; Henrick J. Harwood & Diane M. Napolitano, *Economic Implications of the Fetal Alcohol Syndrome*, 10 ALCOHOL HEALTH AND RES. WORLD 38, 41 (1985); Gerry Oster et al., *Maternal Smoking During Pregnancy and Expenditures on Neonatal Health Care*, 4 AM. J. PREVENT. MED. 216 (1988); Ernest L. Abel & Robert J. Sokol, *Incidence of Fetal Alcohol Syndrome and Economic Impact of FAS-Related Anomalies*, 19 DRUG AND ALCOHOL DEPENDENCE 51 (1987); OFFICE OF TECHNOLOGY ASSESSMENT, NEONATAL INTENSIVE CARE FOR LOW BIRTHWEIGHT INFANTS: COSTS AND EFFECTIVENESS; HEALTH TECHNOLOGY CASE STUDY NO. 38 (1987); Robin D. Gorsky & John P. Colby, *The Cost Effectiveness of Prenatal Care in Reducing Low Birth Weight in New Hampshire*, 24 HEALTH SERV. RES. 583, 589 (1989).

41. *See* Norma Lynn Fox et al., *Prenatal Exposure to Tobacco: I. Effects on Physical Growth at Age Three*, 19 INT'L J. EPIDEMIOLOGY 66 (1990); Mary Sexton et al., *Prenatal Exposure to Tobacco:II. Effects on Cognitive Functioning at Age Three, 19* INT'L J. EPIDEMIOLOGY 66 (1990); Ann P. Streissguth et al., Neurobehavioral Effects of Prenatal Alcohol, 11 NEUROTOXICOLOGY AND TERATOLOGY 461 (1989).

42. *See* Alexandre Lamache, *Reflexions sur la descendance des alcooliques*, 151 BULLETIN DE L'ACADEMIE NATIONALE DE MEDICINE, 517 (1967); Christy Ulleland et al., *The Offspring of Alcoholic Mothers*, 4 PEDIATRIC RESEARCH 474 (1970); Kenneth L. Jones et al., *Pattern of Malformation in Offspring of Chronic Alcoholic Mothers*, 7815 LANCET 1267 (1973); Rebecca H. Warner & Henry L. Rosett, *The Effects of Drinking on Offspring: An Historical Survey of the American and British Literature*, 11 J. STUD. ALCOHOL 1395 (1975). Societal costs of fetal alcohol syndrome in 1985 are estimated at $1.6 billion. ALCOHOL AND HEALTH, *supra* note 42, at 255; Dorothy P. Rice et al., *Estimates of Economic Costs of Alcohol and Drug Abuse and Mental Illness, 1985 and 1988*, 106 PUB. HEALTH REP. 280, 283 (1991). Over lifetimes of fetal alcohol syndrome victims, societal costs are estimates at $2.6 billion, with a possible

C. Costs Incurred by Public Hospitals

As payers of last resort, public hospitals are vulnerable to external costs of markets of harmful products. Society as a whole—and the system of public hospitals in particular—have traditionally absorbed the costs incurred by indigent patients through substance abuse, such as low birth-weight infants, smoking related cancers, and injuries caused by excessive alcohol consumption.[43] Alcohol and tobacco commerce impinges on the operation of public hospitals by draining resources, eroding tax bases, distorting the health care needs of communities and inducing demand for competing infrastructures: police, courts, jails, prisons and welfare.

Pregnant women who use tobacco[44] or alcohol[45] are more likely to give birth to low birth-weight babies than non-substance users. Due to their low birth-weight these infants have serious health problems from the time of their birth[46] and throughout their lives.[47]

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range between $1.9 billion and $9.7 billion. Harwood & Napolitano, *supra* note 40, at 42.

43. *See* Avram Goldstein & Harold Kalant, *Drug Policy: Striking the Right Balance*, 249 SCIENCE 1513, 1513 (1990). For example, patients receiving treatment for alcohol, drug abuse, and mental illness comprised 9-10% of California and Michigan Medicaid populations, accounting for 22-23% of all Medicaid expenditures. George E. Wright & Jeffrey A. Buck, *Medicaid Support of Alcohol, Drug Abuse and Mental Health Services*, 13 HEALTH CARE FINANCING REV. 117, 117, 121 (1991). Functioning social networks and control of addiction are increasingly recognized as essential to health. James S. House et al., *Social Relationships and Health*, 241 SCIENCE 540, 544 (1988).

44. "A clear dose-response relationship exists between the number of cigarettes smoked during pregnancy and the birthweight deficit. . .Compared with nonsmokers, light and heavy smokers have a 54- and 130-percent increase, respectively, in the prevalence of newborns weighing less than 2,500 g. . .The reduction in birthweight associated with maternal tobacco use seems to be a direct effect of smoking on fetal growth." U.S. SURGEON GEN., U.S. DEP'T OF HEALTH AND HUMAN SERVICES, REDUCING THE HEALTH CONSEQUENCES OF SMOKING: 25 YEARS OF PROGRESS 72 (1989) [hereinafter 25 YEARS OF PROGRESS].

45. Julianne Conry, *Neuropsychological Deficits in Fetal Alcohol Syndrome and Fetal Alcohol Effects*, 14 *Alcoholism Clinical and Experimental Research*, 654. *See also supra* note 42. Black infants are at much higher risk of alcohol-related birth defects. *See* Robert J. Sokol et al., *Significant Determinants of Susceptibility to Alcohol Teratogenicity*, 477 ANNALS OF N.Y. ACADEMY OF SCIENCE 93 (1986). Fetal alcohol syndrome ("FAS") describes the condition of infants born addicted to alcohol. These infants typically are underweight, and during infancy may demonstrate dysfunctional brain development. *See Prenatal Care*, *supra* note 38, at 22. Up to half of the children born to mothers who consumed alcohol during pregnancy will exhibit fetal alcohol syndrome. *Id.*

46. *See Prenatal Care*, *supra* note 38.

47. *See Prenatal Care*, *supra* note 38, at 22. As they mature, these infants often suffer heart and lung developmental problems, as well as other serious handicaps. Alcohol consumption during pregnancy is the leading cause of birth defects and mental retardation. "During pregnancy, most drugs taken by the mother cross the

As users of alcohol and tobacco are often uninsured, public hospitals spend tens of thousands of dollars to treat these low birthweight infants before the child leaves the hospital.[48] In addition, many victims of fire[49] and automobile accidents[50] request and receive care in public hospitals.

Significantly, the costs associated with alcohol and tobacco abuse and absorbed by public hospitals are often undercompensated.[51] One-fourth of mothers on welfare abuse or are addicted to alcohol and illicit drugs, a rate three times higher than non-indigent mothers;[52] diagnoses associated with substance abuse increased hospital stays two- to fourfold among medically indigent patients;[53] and substance abuse accounted for one-fifth of Medicaid expenditures and hospital days.[54] In recent years, the uninsured population has expanded to 37 million people[55] with substance abuse contributing significantly to the source of the problem and compli-

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placenta and enter the bloodstream of the developing fetus. Alcohol impairs cell functions and affects tissue and organ development. Chronic exposure can interfere with the passage of amino acids—protein 'building blocks'—from the mother to the fetus." *Id.*

48. In Los Angeles, 2,973 drug- or alcohol-dependent babies were born in 1992. If each of these babies required the stated hospital cost of $1,500 a day for an average of two weeks (see *Prenatal Care*, *supra* note 38, at 22), then the state, insurance companies and hospitals would absorb a bill of some $62 million dollars in Los Angeles alone.

49. *See, e.g.*, American Medical Association General Counsel, *Tobacco Product Liability*, 255 JAMA 1034 (1986); John F. Banzhaf III, *Smoking Control Legislation: Law-Related Actions Aimed At the Problems of Smoking*, *in* SMOKING AND HEALTH 402 (M. Aoki ed. 1988).

50. Social factors, including discrimination, poverty, unemployment, and homelessness, may contribute to the increased rates of complications of alcohol abuse among poor populations. James S. House et al., *Social Relationships and Health*, 241 SCIENCE 540, 541 (1988). *See also* Richard Cooper & Richard David, *The Biological Concept of Race and Its Application to Public Health and Epidemiology*, 11 J. HEALTH POL., POL'Y & LAW 97 (1986); Barbara Starfield, *Social Factors: Poverty, Class, Race*, 65 BULL. OF N.Y. ACADEMY MED. 299 (1989).

51. JOSEPH A. CALIFANO, JR., CENTER ON ADDICTION AND SUBSTANCE ABUSE, THE COST OF SUBSTANCE ABUSE TO AMERICA'S HEALTH CARE SYSTEM. REPORT 1: MEDICAID HOSPITAL COSTS 4-5, 60 (1993).

52. JOSEPH A. CALIFANO, JR. ET AL., CENTER ON ADDICTION AND SUBSTANCE ABUSE, SUBSTANCE ABUSE AND WOMEN ON WELFARE 3 (1994).

53. CALIFANO ET AL., *supra* note 52, at 5.

54. *Id.* at 4; R. Paul Duncan, *Uncompensated Hospital Care*, 49 MED. CARE REV. 265, 265 (1992).

55. Donald R. Cohodes, *America: The Home of the Free, The Land of the Uninsured*, 23 INQUIRY 227 (1986); Howard E. Freeman et al., *Uninsured Working-Age Adults: Characteristics and Consequences*, 24 HEALTH SERV. RESEARCH 811 (1990).

cations in its treatment.[56] Moreover, medical costs have greatly outpaced inflation.[57] As a result, the costs absorbed by public hospitals have grown exponentially — One group alone reports shortfalls exceeding $200 million annually.[58]

Burdened by other expensive consequences of alcohol use, including violent crime and prison costs, states have had to cut back on Medicaid eligibility and payments to public hospitals.[59] As a result, hospitals lose money by treating Medicaid and even Medicare patients.[60] Such losses force public hospitals to make financial decisions that compromise the treatment of indigent patients.[61]

Further, alcohol and tobacco erodes the tax base that sustains public hospitals. Heavy abusers of alcohol and tobacco are more

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56. *See generally* FEDERAL TASK FORCE ON HOMELESSNESS AND SEVERE MENTAL RETARDATION, DEPARTMENT OF HEALTH AND HUMAN SERVICES, OUTCASTS ON MAIN STREET 10, 44 (1992).

57. Medicaid costs have increased 13% annually since 1980, compared with 4.4% for the Consumer Price Index. *See* CALIFANO ET AL., *supra* note 52, at 11.

58. NATIONAL ASSOCIATION OF PUBLIC HOSPITALS, AMERICA'S URBAN HEALTH SAFETY NET: MEETING THE NEEDS OF OUR MOST VULNERABLE PATIENTS 9 (1994). This report pertains to 100 of the largest public hospitals in the U.S. In 1991, 24% of hospital discharges (representing 20% of hospital days) and 37% of outpatient and emergency department visits were unreimbursed at these public hospitals. *Id*, at 9. Vulnerable patients will require an additional $10 billion in services at these hospitals. *Id*, at 9. *See also Public Hospitals Say Reform Must Shore Up Safety Net*, THE NATION'S HEALTH, May-June 1994, at 8.

59. *See* Robert B. Hackey, *Trapped Between State and Market: Regulating Hospital Reimbursement in the Northeastern States*, 49 MED. CARE REV. 355 (1992); Cathy Schoen, *Medicaid and the Poor: Medicaid Myths and Reality and the Impact of Recent Legislative Changes*, 60 BULL. N.Y. ACAD. MED. 54, 56, 59-60, 63-64 (1984); Roxanne Andrews et al., *Access to Hospital Care for California and Michigan Medicaid Recipients*, 12 HEALTH CARE FIN. REV., 99 (1991); E. Richard Brown & Michael R. Cousineau, *Loss of Medicaid and Access to Health Services*, 12 HEALTH CARE FIN. REV. 17 (1991); Richard G. Frank & Paul J. Gertler, *The Effect of Medicaid Policy on Mental Health and Poverty*, 26 INQUIRY 283 (1989).

60. Larry S. Gage, President, National Association of Public Hospitals, Statement to Senate Financing Committee (March 22, 1990) "The [American Hospital Association] claims that 66% of hospitals will be losing money on Medicare patients by the end of 1990. Virtually all hospitals lose money on Medicaid, which usually pays 50 to 75 cents on the dollar of cost, depending on the state." Friedman, *supra* note 8, at 2976.

61. Arnold S. Relman, *Practicing Medicine in the New Business Climate*, 316 NEW ENG. J. MED. 1150, 1150 (1987); Eli Ginzberg, *A Hard Look at Cost Containment*, 316 NEW ENG. J. MED. 1151, 1152 (1987); Donald O. Nutter, *Medical Indigency and the Public Health Care Crisis*, 316 NEW ENG. J. MED. 1156, 1157 (1987); Theodore G. Widmayer et al., *Lending to the Health Care Industry*, J. COMMERC. BANK LENDING 13, 35 (1985); Joan M. DiMarco et al., *Turning Around Financially Distressed Hospitals*, HEALTHCARE FIN. MANAGEMENT 44, 44 (1990); Bruce C. Vladeck, *The Dilemma Between Competition and Community Service*, 22 INQUIRY 115, 119 (1985); Stanley B. Jones et al., *Competition or Conscience? Mixed-Mission Dilemmas of the Voluntary Hospital*, 24 INQUIRY 110, 111 (1987).

likely to be poorly educated, underemployed and medically indigent.[62] As a result, many inner city neighborhoods suffer severe, lasting economic depression despite (or, more likely, because of) booming commerce in addictive products, such as alcohol and tobacco. In some cases, communities have begun to clamor for zoning restrictions against these vendors.[63] In addition, alcohol abuse contributes to homelessness in at least 12% of cases,[64] and to mental illness in 29% of cases.[65] This abuse simultaneously erodes a community's productivity by imposing severe demands on its infrastructures.[66]

Trapped in a vicious cycle, public hospitals are forced to cut back disease prevention programs[67] and even essential emergency services,[68] leaving indigent patients less able to cope.[69] The need to

62. On average, educational attainment of alcohol abusers is retarded by more than 1 grade. *See* John Mullahy & Jody Sindelar, *Life-Cycle Effects of Alcoholism on Education, Earnings, and Occupation*, 26 INQUIRY 272, 281 (1989).

63. For example, some have have petitioned to shut down liquor stores after the Los Angeles riots. K. Connie Kang & Mark Lacey, *Court Rejects Appeal of Rules for Liquor Store*, L.A. TIMES, July 15, 1994 at 1B.

64. *See* Marilyn A. Winkleby et al., *The Origins of Homelessness*, 82 AM. J. PUB. HEALTH 1394, 1396 (1992); Lawrence S. Linn & Lillian Gelberg, *Substance Abuse and Mental Health Status Among Homeless and Domiciled Low Income Users of a Medical Clinic*, 41 HOSP. & COMMUNITY PSYCHIATRY 306, 308 (1990). *See also* COMMITTEE ON HEALTH CARE FOR HOMELESS PEOPLE, HOMELESSNESS, HEALTH, AND HUMAN NEED 50 (1988); James F. Mosher, *Alcohol and Poverty, in* IMPROVING THE HEALTH OF THE POOR: STRATEGIES FOR PREVENTION 97-121 (Sarah E. Samuels & Mark D. Smith eds. 1992); RICHARD H. ROPERS, THE INVISIBLE HOMELESS (1988). In one study, 58% of homeless men had histories of alcohol or other drug abuse. Ezra Susser et al., *Psychiatric Problems in Homeless Men*, 46 ARCHIVES OF GEN. PSYCHIATRY 845, 847 (1989).

65. Darrel A. Regier et al., *Comorbidity of Mental Disorders with Alcohol and Other Drug Abuse*, 264 JAMA 2511, 2511 (1990); Darrel A. Regier et al., *One-Month Prevalence of Mental Disorders in the United States*, 45 ARCHIVES OF GEN. PSYCHIATRY 977, 980 (1988).

66. *See* Darrel A. Regier et al., *The De Facto U.S. Mental and Addictive Disorders Service System*, 50 ARCHIVES GEN. PSYCHIATRY 85, 90 (1993); William E. Narrow et al., *Use of Services by Persons with Mental and Addictive Disorders*, 50 ARCHIVES GEN. PSYCHIATRY 95, 97 (1993); Agnes Rupp & Carl A. Taube, *Analysis of the Effect of Disproportionately Large Share of Low-income Patients on Psychiatric Costs in General Hospitals*, 26 INQUIRY 216, 220 (1989); P. Von Ville et al., *Tuberculosis Among Homeless Shelter Residents*, 40 Morbidity and Mortality Wkly. Rep., 869, 869 (1991); Robert A. Duhaime, et al., Evaluation of Control Program for Tuberculosis in Homeless Shelters, Abstract Presented at the Epidemiology Intelligence Service Conference, Centers for Disease Control and Prevention (April 21, 1994) (abstract on file at CDC).

67. INSTITUTE OF MEDICINE, THE FUTURE OF PUBLIC HEALTH 19-28 (1988).

68. Suzanne Mulstein, *The Uninsured and the Financing of Uncompensated Care: Scope, Costs, and Policy Options*, 21 INQUIRY 214, 221 (1984); Philip J. Hilts, *Wait for Bed at Public Hospital Can Be Days*, N.Y. TIMES, Jan. 30, 1991, at A20; Andrew A.

deliver episodic urgent care repeatedly to patients with unhealthy, addictive lifestyles siphons much-needed resources from prevention programs.[70] The high prevalence of preventable disease and cost burdens on health care services have a measurably adverse impact on community health.[71] For example, the entirely preventable re-emergence of tuberculosis has been attributed primarily to the chronic underfunding of public hospitals and other disease prevention infrastructures serving vulnerable populations.[72]

Social problems associated with substance abuse (particularly alcoholism) create excess need for other infrastructures, such as police, courts, jails, prisons, homeless shelters and welfare, which compete against public hospitals for resources.[73] The expenditure

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Skolnick, *Congress Acts to Resuscitate Nation's Financially Ailing Trauma Care Systems*, 267 JAMA 2994, 2994-95 (1992).

69. Barbara Starfield, *Family Income, Ill Health, and Medical Care of U.S. Children*, 9 J. PUB. HEALTH POLICY, 244-59 (1982); Paul W. Newacheck & Neal Halfon, *The Financial Burden of Medical Care Expenses for Children*, 24 MED. CARE 1110, 1113 (1986).

70. *See* INSTITUTE OF MEDICINE, THE FUTURE OF PUBLIC HEALTH 19 (1988); ROBERT W. AMLER & H BRUCE DULL, CLOSING THE GAP: THE BURDEN OF UNNECESSARY ILLNESS 127 (1987); Steffie Woolhandler & David U. Himmelstein, *Reverse Targeting of Preventive Care Due to Lack of Health Insurance*, 259 JAMA 2872, 2874 (1988).

71. *See* Colin McCord & Harold P. Freeman, *Excess Mortality in Harlem*, 322 NEW ENG. J. MED. 173 (1990); Philip Yam, *Grim Expectations: Life Expectancy of Blacks is Sliding*, SCI. AM., Mar. 1991, at 33; Andrew B. Bindman, et al., *A Public Hospital Closes: Impact on Patients' Access to Care and Health Status*, 264 JAMA 2899, 2902 (1990); Robert J. Blendon et al., *Uncompensated Care by Hospitals or Public Insurance for the Poor: Does it Make a Difference?*, 314 NEW ENG. J. MED. 1160, 1160 (1986); Joel S. Weissman et al., *Delayed Access to Health Care: Risk Factors, Reasons, and Consequences*, 114 ANNALS OF INTERNAL MED. 325, 329 (1991); Andrew B. Bindman, et al., *Consequences of Queuing for Care at a Public Hospital Emergency Department*, 266 JAMA 1091, 1095 (1991); David W. Baker et al., *Patients Who Leave a Public Hospital Emergency Department Without Being Seen by a Physician: Causes and Consequences*, 266 JAMA 1085, 1089 (1991); Arthur Kellerman, *Too Sick to Wait*, 266 JAMA 1123, 1123; Nicole Lurie et al., *Termination from Medi-Cal — Does it Affect Health?*, 311 NEW ENG. J. MED. 480, 480 (1984).

72. *See* Lawrence O. Gostin, *Controlling the Resurgent Tuberculosis Epidemic: A 50-State Survey of TB Statutes and Proposals for Reform*, 269 JAMA 255 (1993); Sheldon H. Landesman, *Tuberculosis in New York City—The Consequences and Lessons of Failure*, 83 AM. J. PUB. HEALTH 766 (1993).

73. For example, the current emphasis on life sentences for repeat violent offenders and the treatment of juvenile offenders as adults, rather than an emphasis on the prevention of the conditions that spawn violent behavior, ignores the enormous costs of lifelong incarceration. *See* PETER W. GREENWALD, RAND CORPORATION, THREE STRIKES AND YOU'RE OUT: ESTIMATED COSTS AND BENEFITS OF CALIFORNIA'S NEW MANDATORY-SENTENCING LAW MR-509-RC (1994); Jill Smolowe et al., *Going Soft on Crime: While California's Tough Three-Strikes Law Falters, Prevention Programs Are Keeping Kids in Line*, TIME, Nov. 14, 1994, at 63-64; Jill Smolowe, . . . *And Throw Away the Key*, TIME, Feb. 7, 1994, at 56.

of $37 billion on new prison construction over the past two decades to accomodate the increasing prison population[74] draws funding away from public hospitals, health care and reform options. Further, overcrowding in prisons[75] and homeless shelters[76] creates new routes of transmission for infectious diseases into the general population.

Numerous economic analyses have paradoxically suggested that tobacco actually saves society expenditures over the long run because premature deaths, caused by smoking, prevent post-retirement outlays,[77] and, for the same reason, alcohol causes only small long-term costs.[78] These analyses, which erroneously assume static

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74. Smolowe, *supra* note 73, at 56.

75. American College of Physicians, *The Crisis in Correctional Health Care: The Impact of the National Drug Control Strategy on Correctional Health Services*, 117 ANNALS OF INTERNAL MED. 71, 74 (1992); Sarah E. Valway et al., *Outbreak of Multidrug-resistant Tuberculosis in a New York State Prison*, 1991, 140 AM. J. EPIDEMIOLOGY, 113, 116-17, 119 (1994); Jordan W. Tappero et al., The Great Escape: Meningococcal Outbreak from the Los Angeles County Jail, Abstract Presented at the Epidemiology Intelligence Service Conference, Centers for Disease Control and Prevention 46 (April 19, 1994) (abstract on file at CDC).

76. *See infra* note 79, and P. VonVille, et al., *Tuberculosis Among Homeless Shelter Residents*, 40 MORBIDITY AND MORTALITY WKLY. REP. 869 (1991).

77. DEPARTMENT OF HEALTH AND SOCIAL SECURITY (U.K.), SMOKING AND HEALTH: A STUDY OF THE EFFECTS OF A REDUCTION IN CIGARETTE SMOKING ON MORTALITY AND MORBIDITY RATES, ON HEALTH CARE AND SOCIAL SECURITY EXPENDITURES, AND ON PRODUCTIVE POTENTIAL (1972); LOUISE B. RUSSELL, BROOKINGS INST., Is PREVENTION BETTER THAN CURE? (1986); Robert E. Leu & Thomad Schaub, *Does Smoking Increase Medical Care Expenditures?*, 17 SOC. SCI. MED. 1907, 1907 (1983). "Although nonsmokers subsidize smokers' medical care and group life insurance, smokers subsidize nonsmokers' pensions and nursing home payments. On balance, smokers probably pay their way at the current level of excise taxes on cigarettes." The same analysis indicates that alcohol consumers do not quite pay their way. Willard G. Manning et al., *The Taxes of Sin: Do Smokers and Drinkers Pay Their Way?*, 261 JAMA 1604, 1604 (1989).

Some workers maintain that ethical and public health considerations, not economics, must guide policy, since assigning economic benefit to causing premature death is unacceptable. *See* ELIZABETH M. WHELAN, A SMOKING GUN: HOW THE TOBACCO INDUSTRY GETS AWAY WITH MURDER 150 (1984) [hereinafter A SMOKING GUN]. In this context, post-retirement outlays would represent societal transfers that are made voluntarily on the basis of value judgments and should not be included in the economic analysis. Thomas C. Schelling, *Economics and Cigarettes*, 15 PREVENTIVE MED. 549, 555-56 (1986); Dorothy P. Rice et al., *The Economic Costs of the Health Effects of Smoking*, 64 MILBANK Q. 489, 491-92 (1986).

For related problems with these accounting analyses of tobacco-related costs, see generally W.F. Forbes & M.E. Thompson, *Estimating the Health Care Costs of Smokers*, 74 CAN. J. PUB. HEALTH 183, 184 (1983); W.F. Forbes & M.E. Thompson, *The Quantitative Evaluation of Risks: Unresolved Problems*, 80 CAN. J. PUB. HEALTH 282 (1989).

78. In this static, accounting framework, even the definition of uncompensated care is clouded by (essentially political) decisions about who should get price breaks.

social conditions, ignore (i) public hospitals' precarious financial position as a weak link in the health care system, (ii) the alcohol and tobacco companies' aggressive exploitation of vulnerable populations dependent on public hospitals, and (iii) the resultant unprecedented epidemic growth of a wide range of societal problems such as tuberculosis and violence.[79] While some seg-

See generally Duncan, *supra* note 54. These arguments neglect or even rationalize the deterioration or withdrawal of essential services in the face of escalating need and maladaptive social changes.

79. Epidemiology has only recently developed approaches for examining risks in the context of a dynamic environment, as, for example, with infectious diseases. The following use a traditional, "static" epidemiologic model of disease, whereby underlying conditions are assumed not change over time: James J. Schlesselman, *"Proof" of Cause and Effect in Epidemiological Studies: Criteria for Judgement*, 16 PREVENTIVE MED. 195 (1987); Mervyn Susser, *What is a Cause and How Do We Know One? A Grammar for Pragmatic Epidemiology*, 133 AM. J. EPIDEMIOLOGY 635 (1991). Compare those static approaches with more dynamic epidemiologic models, as developed in the following articles: M. Elizabeth Halloran & C.J. Struchiner, *Study Designs for Dependent Happenings*, 2 EPIDEMIOLOGY 331 (1991); James S. Koopman & Douglas L. Weed, *Epigenesis Theory: A Mathematical Model Relating Causal Concepts of Pathogenesis in Individuals to Disease Patterns in Populations*, 132 AM. J. EPIDEMIOLOGY 366 (1990); James S. Koopman & Ira M. Longini, *The Ecological Effects of Individual Exposures and Nonlinear Disease Dynamics in Populations*, 84 AM. J. PUB. HEALTH 836 (1994); Mervyn Susser, *The Logic in Ecological: I. The Logic of Analysis*, 84 AM. J. PUB. HEALTH 825 (1994). Commentators Hunt and Chambers eloquently describe substance abuse as a socially-transmitted process analogous to infection. *See* LEE GIBSON HUNT & CARL D. CHAMBERS, THE HEROIN EPIDEMICS: A STUDY OF HEROIN USE IN THE UNITED STATES, 1965-1975 (1976). The physical and social sciences have considered dynamic changes in complex feedback systems for some time. *See generally* GEORGE P. RICHARDSON, FEEDBACK THOUGHT IN SOCIAL SCIENCE AND SYSTEMS THEORY (1991); PHILIP W. ANDERSON ET AL., THE ECONOMY AS AN EVOLVING COMPLEX SYSTEM (1988); William T. Powers, *Quantitative Analysis of Purposive Systems: Some Spadework at the Foundations of Scientific Psychology*, 85 PSYCHOL. REV. 417 (1978).

For example, the current epidemic of tuberculosis, and particularly the evolution of antibiotic-resistant strains, represents a growing problem to which alcohol and tobacco substantially contribute both directly and indirectly. Static analyses (also flawed, and likely to be conservative when infrastructures are deteriorating) estimate that tobacco and alcohol each account for 15% of cases of tuberculosis. *See* Dorothy P. Rice et al., *The Economic Costs of the Health Effects of Smoking, 1984*, 64 MILBANK Q. 489 (1986). *See also* N.A. Akgulian et al., *Alcohol-Related Disease Impact*, 39 MORBIDITY & MORTALITY WKLY. REP. 178, 179 (1990). Tobacco produces chronic obstructive pulmonary disease, which destroys the physical integrity and immunological surveillance of the lungs and provides safe havens in smokers' lungs for tuberculosis bacteria. Chronic alcohol abuse contributes directly to the severity of the tuberculosis epidemic in the population by causing (1) progressive nutritional deficiencies, which compromise immunological defenses, (2) episodic acute intoxication, resulting repeatedly in episodes of vomiting, aspiration, pneumonia and chronic lung damage, and (3) noncompliance of addicted patients to antibiotic regimens, for instance, taking antituberculous drugs only until symptoms are relieved and resuming alcoholic lifestyles, thereby encouraging evolution of antibiotic resistant strains. Epidemiological studies confirm an approximately twofold increase in tuberculosis inci-

ments of the health care system are the economic beneficiaries of premature deaths caused by alcohol and tobacco, public hospitals suffer only economic dislocations. Rather, public hospitals would benefit from (i) the tax support generated by productive, healthy, and (when hospitalized) medically insured citizens; (ii) treatment of relatively minor diseases involving low-risk procedures incurring minimal malpractice liability exposure; and (iii) episodic Medicare reimbursement (preferably supplemented by post-retirement insur-

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dence among smokers (compared to nonsmokers) and heavy alcohol drinkers (compared to nondrinkers). Susan E. Buskin et al., *Tuberculosis Risk Factors in Adults in King County, Washington, 1988 Through 1990*, 84 AM. J. OF PUB. HEALTH 1750, 1753 (1994). Alcohol contributes significantly to homelessness (substance abuse accounting for 12% of the total cases in the most conservative static analysis, Winkleby et al., *supra* note 64, at 1396), and therefore contributes to the need for crowding homeless people into mass shelters. Since large fractions of urban populations at some time join crowded homeless shelters, see Dennis P. Culhane et al., *Public Shelter Admission Rates in Philadelphia and New York City: The Implications of Turnover for Sheltered Population Counts*, 5 HOUSING POL'Y DEBATE 107, 132-33 (1994), alcohol indirectly increases the number of people exposed to the tuberculosis organism through airborne droplets. *See* P. VonVille et al., *Tuberculosis Among Homeless Shelter Residents*, 40 MORBIDITY AND MORTALITY WKLY. REP. 869 (1991). When societal infrastructures are intact, the chain of events required to sustain infection are too tenuous to take hold. However, after progressive, longstanding neglect of public health and its infrastructures, tuberculosis infection becomes common enough to sustain transmission indefinitely in a population. Under those conditions, tuberculosis becomes a threat to the entire population (including affluent individuals), because it can spread by airborne transmission.

Another example is the unprecedented epidemic of random violence in America. Alcohol and illicit drug abuse (and firearms, another harmful product) play prominent roles in perpetuating epidemic violence, through loss of inhibitions during minor fights, domestic abuse, child abuse, mental illness, gang warfare, drug dealing, and the like. *See* Jane Ellen Stevens, *Treating Violence as an Epidemic*, 97 TECH. REV. 22, 22-31 (1994); Richard H. Blum, *Violence, Alcohol, and Setting: An Unexplored Nexus in* DRINKING AND CRIME 110-42 (James J. Collins, Jr., ed., 1981); Claire Jo Hamilton & James J. Collins, Jr., *The Role of Alcohol in Wife Beating and Child Abuse: A Review of the Literature, in* DRINKING AND CRIME, *supra*, at 253-87; James J. Collins, Jr., *Alcohol Use and Criminal Behavior: An Empirical, Theoretical, and Methodological Overview, in* DRINKING AND CRIME, *supra*, 288-316. Tobacco and alcohol also contribute indirectly to the problem, acting as a gateway to harder drugs for some individuals. The epidemic of child abuse also threatens to perpetuate violence in the next generation. When social norms provide sufficient control over individual behavior, the sporadic lapse of an individual here and there is of little permanent consequence to the population as a whole. However, in an undisciplined society awash in guns and substance abuse, a single mentally unstable individual can inflict a crime wave. Conditions have progressed much further in our society, to the point where America leads the entire world in the fraction of its population that is incarcerated, see American College of Physicians, *supra* note 75, and Patrick A. Langan, *America's Soaring Prison Population*, 251 SCIENCE 1568 (1991), requiring outlays for prisons that are clearly unsustainable. *See supra* notes 67-76 and accompanying text.

ance) of elderly patients living long lives with no more than the ordinary minor ailments associated with aging.[80]

D. Costs Incurred by Society as a Whole

Our society has recently undergone a profound deindustrialization,[81] with devastating economic and health care consequences.[82] We stand to become the first American generation to leave a lower standard of living to its children.[83] Substance abuse, particularly alcoholism, and the dissemination of firearms have escalated to unprecedented levels within the past few decades.[84] We are experiencing the worst epidemic of random violence in American history,[85] which particularly affects the young, as both victims and

80. All patients, regardless of income, become eligible for Medicare reimbursement upon reaching age 65. Medicare payments received for medical treatment of retirees contribute substantially to public hospitals' finances, at considerably higher rates than Medicaid treatment of the disabled and non-elderly medically indigent or uninsured patients. In contrast to Medicare, the combination of charity care and Medicaid reimbursement falls below the break-even point. *See supra* note 60. In other words, public hospitals lose money in treating young, indigent patients. Also, Medicaid reimbursement is a less reliable and less consistent reimbursement source, because, unlike Medicare, it is heavily dependent on state contributions, which can be unpredictable during times of widespread cutbacks in public expenditures. Also, alcohol and tobacco substantially reduce overall productivity, thereby compromising the tax base which sustains public hospitals. The effects of alcohol and tobacco in accelerating disease progression conceivably may also increase hospitals' medicolegal exposure, by forcing them to perform riskier procedures on younger patients. These arguments suggest that public hospitals' economic interests (in prolonging life, promoting productivity, preventing disability, and delivering episodic health care over an extended lifespan) are compromised by premature disease caused by alcohol and tobacco in medically indigent populations.

81. BARRY BLUESTONE & BENNET HARRISON, THE DEINDUSTRIALIZATION OF AMERICA: PLANT CLOSINGS, COMMUNITY ABANDONMENT, AND THE DISMANTLING OF BASIC INDUSTRY (1982). The seriousness of deindustrialization of America is illustrated by the facts that technological innovation accounts for 65-80% of U.S. productivity growth since the Great Depression, and technology-based sectors generate around 50% of the gross national product. John A. Young, *Technology and Competitiveness: A Key to the Economic Future of the United States*, 241 SCIENCE 313, 314 (1988).

82. Craig Renner & Vincente Navarro, *Why is Our Population of Uninsured and Underinsured Persons Growing? Consequences of the "Deindustrialization" of America*, 10 ANN. REV. PUB. HEALTH 85, 91, 93 (1989).

83. *See* NATIONAL COMM'N. ON THE ROLE OF THE SCHOOL AND THE COMMUNITY IN IMPROVING ADOLESCENT HEALTH, AM. MED. ASS'N., CODE BLUE: UNITING FOR HEALTHIER YOUTH (1990) [hereinafter CODE BLUE].

84. ROBERT WOOD JOHNSON FOUNDATION REPORT, *supra* note 1, at 10-15; Gary Taubes, *Violence Epidemiologists Test the Hazards of Gun Ownership*, 258 SCIENCE 213 (1992).

85. Hospital admissions for firearms injuries tripled in the nation's capital between 1983 and 1990, with multiple gunshot wounds becoming more common. Daniel W. Webster et al., *Epidemiological Changes in Gunshot Wounds in Washington, D.C.*,

perpetrators.[86] These adverse societal trends are concentrated among the very poor, leading to profoundly worsened health status[87] and standards of living.[88] In addition, these adverse societal trends have led to unprecedented deterioration of the infrastructures that serve the financially disadvantaged. While the poor have historically been entrepreneurial, hard-working and upwardly mobile, we now observe a culture characterized by social and family breakdown, dependency, alienation, mental illness and substance abuse that has engulfed multiple generations and all races.[89]

1983-1990, 127 ARCHIVES OF SURGERY, 694, 695 (1992). In one study, 41% of urban black males age 20 to 29 visited hospital emergency departments at least once in a four year period because of interpersonal intentional injuries. Donald F. Schwarz et al., *A Longitudinal Study of Injury Morbidity in an African-American Population*, 271 JAMA 755, 757 (1994). In a similar population, repeat violent injuries occurred in 5% of cases, at intervals averaging only 8 months between injuries. R. Stephen Smith et al., *Recidivism in an Urban Trauma Center*, 127 ARCHIVES OF SURGERY 668, 668-69 (1992). The national homicide rate rose from 4.6 per 100,000 in 1963 to 10 per 100,000 in 1992. Gary Taubes, *Violence Epidemiologists Test the Hazards of Gun Ownership*, 258 SCIENCE 213, 214 (1992). Annually as many women are victims to domestic abuse (4 million) as give birth. Domestic abuse accounts for 20-30% of emergency department visits by women, accounting for half the nearly 6,000 annual women homicide victims. One in four women will be assaulted during her lifetime by a domestic partner. *Shalala: Domestic Abuse Epidemic in U.S.*, THE NATION'S HEALTH, May-June 1994, at 6.

86. Homicide has become the leading cause of death between ages 15 and 34 for black males and females and, recently also for white males. Forty percent of black males will be victims of violent crime three or more times. BREAKING THE CYCLE, *supra* note 5, at 17. "Nationally, there were 151 arrests per 100,000 juveniles for weapons law violations in 1990. This was the highest rate ever recorded." BREAKING THE CYCLE, *supra* note 5, at 19. citing FEDERAL BUREAU OF INVESTIGATION, UNIFORM CRIME REPORTS FOR THE UNITED STATES, 1991 (1992)

87. *See* CODE BLUE, *supra* note 83, at 1, 2; NATIONAL RESOURCE COUNCIL, LOSING GENERATIONS: ADOLESCENTS IN HIGH-RISK SETTINGS 2-10 (1993); Theodore Joyce, *The Dramatic Increase in the Rate of Low Birthweight in New York City: An Aggregate Time-series Analysis*, 80 AM. J. PUB. HEALTH 682, 683 (1990).

88. *See* CODE BLUE, *supra* note 83, at 2, 6; Harold M. Maurer, *The Growing Neglect of American Children*, 145 AM. J. DISEASES OF CHILDREN 540 (1991); Barbara B. Blum & Susan Blank, *Children's Services in an Era of Budget Deficits*, 145 AM. J. DISEASES OF CHILDREN 575 (1991).

89. *See* Nicholas Zill & Charlotte A. Schoenborn, *Developmental, Learning, and Emotional Problems: Health of Our Nation's Children, United States, 1988*, 190 VITAL AND HEALTH STATISTICS 1, 8-9 (1990); U.S. SECRETARY OF HEALTH AND HUMAN SERV., ALCOHOL AND HEALTH: EIGHTH SPECIAL REPORT TO THE U.S. CONGRESS 1-30 (1993); Thomas R. Burke, *The Economic Impact of Alcohol Abuse and Alcoholism*, 103 PUB. HEALTH REP. 564, 567 (1988); Michael Wentzel & Sherrie Negrea, *The Roots of Poverty in Rochester*, ROCHESTER DEMOCRAT AND CHRON., Nov. 7-10, 1993, at 1A, 7A; CHILDREN OF ALCOHOLICS (Marc Galanter ed., 1991); Peter Steinglass, *The Impact of Alcoholism on the Family: Relationship between Degree of Alcoholism and Psychiatric Symptomatology*, 42 J. STUD. ALCOHOL 288, 301 (1981); Lee N. Robins & Rumi K. Price, *Adult Disorders Predicted by Childhood Conduct Problems: Results from the NIMH Epidemiologic Catchment Area Project*, 54 PSYCHIATRY 116

The prevalence of alcohol abuse is unprecedented in American history, with devastating effects on families, communities and infrastructures.[90] Over the period from 1940 to 1980, estimates of the number of alcoholics in the United States increased from 750,000 to 6 million.[91] Approximately 43% of American adults, or 76 million people, have been exposed to alcoholism in the family.[92] Early onset of alcoholism retards educational attainment by more than a full grade, with corresponding decreases in earning potential.[93] Whereas those suffering the final stages of disease in past eras would have quietly died at home, medicine now treats the consequences of longstanding alcohol and tobacco abuse as chronic diseases,[94] at great expense to the health care system and other societal infrastructures.

Society effectively pays huge subsidies to the alcohol and tobacco industries to act against its own interests.[95] Total annual societal costs[96] of alcohol and tobacco use are estimated at $98-117 billion and $72 billion, respectively, compared to the industries' retail sales of $92 billion and $44 billion respectively.[97] The heaviest

(1991); David Reiss, *Conduct Disorders in Childhood: The Problem Now Seems Increasingly Urgent. Is Help on the Way?*, 54 PSYCHIATRY 113, 114 (1991).

90. *See, e.g.*, Thomas R. Burke, *The Economic Impact of Alcohol Abuse and Alcoholism*, *supra* note 89, at 564.

91. Some, but not all, of the increase is attributable to increased self-awareness and medical recognition of alcoholism. *See* Baum & Burnes, *supra* note 3, at 158.

92. Charlotte A. Schoenborn, *Exposure to Alcoholism in the Family, United States, 1988*, 205 ADVANCE DATA 1 (1991)

93. *See supra* note 62.

94. John A. Noble et al., *Cirrhosis Hospitalization and Mortality Trends, 1970-87*, 108 PUB. HEALTH REP. 192, 193, 196 (1993).

95. *See* Avram Goldstein & Harold Kalant, *Drug Policy: Striking the Right Balance*, 249 SCIENCE 1513, 1516-17 (1990). The contention that legalization and taxation provides funding for treatment of addicts lacks merit because total societal costs in the U.S. from alcohol were reportedly ten times the corresponding revenues generated at all levels of government. *Id.* at 1516.

96. Methods used to define societal costs are discussed by Dorothy Rice et al., *The Economic Costs of the Health Effects of Smoking*, 64 MILBANK Q. 489, 491-502 (1986). Societal costs were obtained by (i) using the human capital approach, which takes into account the impact of alcohol and tobacco on individuals' economic output; and (ii) measuring the monetary value of resources used (direct costs) and lost (indirect costs) as a result of illness or death, using prevalence-based accounting methods, which measure annual costs caused by exposures over many preceding years. Not considered were "willingness-to-pay" methods, which values human life according to amounts people are willing to spend to avoid mortality and morbidity, and societal transfers, in which resources are shifted from one segment of the economy to another. *Id.* at 491, 492, 494. In this regard, the costs presented here underestimate the total impact on society.

97. ROBERT WOOD JOHNSON FOUNDATION REPORT *supra* note 1, at 17; Dorothy P. Rice et al., *supra* note 39, at 290. *See also* Holden, *supra* note 9; Karl Kronebusch,

10% of drinkers (corresponding to addicted and/or problem consumers[98]) account for at least 40-50% of alcohol sales.[99] Buoyed by these steady and enormous implicit subsidies, alcohol and tobacco industries have long provided exceptional, virtually recession-proof returns on investment.[100] Industries highly beneficial to society's long-term interests, such as new technologies in computing, transportation, medicine, environment, are unable to generate comparable returns on investment, and presumably become less competitive for investment capital.

Direct health care costs of alcohol and tobacco have a combined total of $7-8 billion per year,[101] of which $1 billion or more may be undercompensated.[102] Adding the "gateway"[103] and interaction[104] effects of alcohol and tobacco to costs of illicit drugs (estimated at $67 billion[105]) increases these estimates substantially. Significantly, total losses associated with substance abuse (perhaps over $238 bil-

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SMOKING: HUMAN AND ECONOMIC COSTS, 7(5) CANCER INVESTIGATION 463, 471-73 (1989); HAROLD D. HOLDER ET AL., NATIONAL INST. ON ALCOHOL ABUSE AND ALCOHOLISM, ALCOHOLISM TREATMENT IMPACT ON TOTAL HEALTH CARE UTILIZATION AND COSTS: ANALYSIS OF THE FEDERAL EMPLOYEES HEALTH BENEFIT PROGRAM WITH AETNA LIFE INSURANCE COMPANY, INC. (1985); *Substance Abuse is Blamed For 500,000 Deaths*, N.Y. TIMES, Oct. 24, 1993, at A11.

98. *Supra* note 21, and accompanying text.

99. M. H. Moore & Dean R. Gerstein, *Alcohol and Public Policy: Beyond the Shadow of Prohibition* (1981), *cited in* Philip J. Cook, *Alcohol Taxes as a Public Health Measure in* ECONOMICS AND ALCOHOL: CONSUMPTION AND CONTROL 190, 191 (Marcus Grant et al., eds. 1983). More recently, Olson & Gerstein write "A third of the adult population drinks 95 percent of all alcohol consumed, with 5 percent of the population accounting for over half of the overall total." STEVE OLSON & DEAN R. GERSTEIN, ALCOHOL IN AMERICA: TAKING ACTION TO PREVENT ABUSE 13 (1985).

100. For example, returns on investment for tobacco and alcohol subsidiaries have long hovered around 40% annually, levels typically not sustainable by any other legitimate industry.

101. *See* David H. Jernigan et al., *Alcohol-related Problems and Public Hospitals: Defining a New Role in Prevention*, 3 J. PUB. HEALTH POL'Y 324 (1989).

102. *See* UNCOMPENSATED HOSPITAL CARE: RIGHTS AND RESPONSIBILITIES (Frank A. Sloan et al. eds., 1986). In 1982, community hospitals provided $6.2 billion in uncompensated care, representing 5% of charges. *Id.* at 19.

103. *See supra* notes 1 and 29. *See also* Susan L. Bailey, *Adolescents' Multisubstance Use Patterns: The Role of Heavy Alcohol and Cigarette Use*, 82 AM. J. PUB. HEALTH 1220 (1992).

104. "Interaction" describes synergistic or potentiating effects, whereby harm resulting from two types of exposure exceed the sum of the individual components of harm from each exposure separately. *See* Harriet L. Barr & Arie Cohen, *The Problem Drinking Drug Addict, in* NATIONAL DRUG/ALCOHOL COLLABORATIVE PROJECT: ISSUES IN MULTIPLE SUBSTANCE ABUSE 78, 84, 86 (Stephen E. Gardner ed., 1980).

105. ROBERT WOOD JOHNSON FOUNDATION REPORT, *supra* note 1, at 9-13.

lion)[106] exceed the budget deficit by a wide margin. If such amounts were saved or invested, the problems of trade and budget deficits would vanish.[107] Thus, in the sheer magnitude of costs, disease burdens and deaths, these epidemics are historically unprecedented and largely preventable, and propagate throughout the economy.

The hidden costs of alcohol and tobacco in compromising society and its infrastructures have seldom been considered in cost-benefit analyses, and never in the context of the growth of the resulting problems.[108] One commentator while ignoring these effects in her cost-benefit analysis, nevertheless concluded that the costs of

106. *See* ROBERT WOOD JOHNSON FOUNDATION REPORT, *supra*, note 1, at 15-16. Firearms injuries may add another $20.4 billion in annual costs (with some overlap). *See* Center to Prevent Handgun Violence & American Academy of Pediatrics, PREVENTING FIREARM INJURIES AMONG CHILDREN AND ADOLESCENTS: A PUBLIC HEALTH CONCERN 3 (1994).

107. For comparison, the American budget deficit amounts to around $200 billion annually. *See* George N. Hatsopoulos et al., *U.S. Competititiveness: Beyond the Trade Deficit*, 241 SCIENCE, 299, 305 (1988). No discretionary funds in the national budget are comparable, and other issues that have attracted attention among voters and industries pale by comparison: services to illegal immigrants impose net costs of $3.1 billion annually, *see* URBAN INST., FISCAL IMPACTS OF UNDOCUMENTED ALIENS: SELECTED ESTIMATES FOR SEVEN STATES (Dec); and total annual costs to industry of compliance with *all* government regulations amounted to $30-90 billion in 1977. *See* ROBERT E. LITAN & WILLIAM D. NORDHAUS, REFORMING FEDERAL REGULATION 18-25 (1983)

More importantly, the source of America's problems are closely related to substance abuse. Martha Burt notes that homelessness, once thought to be a temporary problem, has grown even during periods of economic recovery:

"[H]omelessness . . . is an indicator of the erosion of living standards caused by economic stagnation and productivity loss. [I]t is unlikely that this country will reverse its economic situation soon, and it may not be able to do so at all. . . . Dertouzos et al. outline six aspects of American industry that must change: Outdated strategies, short time horizons, technological weaknesses in development and production, neglect of human resources, failures of cooperation, and government and industry at cross-purposes . . . [P]revailing attitudes have been to expect little from the work force, to structure jobs to require few skills, and to discard workers with outmoded skills rather than retrain them." *See* Martha Burt, OVER THE EDGE: THE GROWTH OF HOMELESSNESS IN THE 1980s (1992). *See also* Michael L. Dertouzos et al., MADE IN AMERICA: REGAINING THE PRODUCTIVE EDGE (1989); Suzanne Berger et al., *Toward a New Industrial America*, 260 SCI. AM. 39, 46-47 (1989).

At least three of the problems identified by Dertouzos et al. (short time horizons, neglect of human resources, and government and industry at cross-purposes), and arguably two others (outdated strategies and weaknesses in development and production) have roots in substance abuse, as argued from the historical record below. *See infra* part III. Enormous costs, which are comparable in size to known and otherwise insurmountable problems, suggest that substance abuse is at the heart of a contemporary economic downturn. *See infra* notes 135-43 and accompanying text.

108. *See* discussion *supra* note 79.

smoking exceed the benefits by over $17 billion.[109] Alcohol contributes to even more growing societal problems than does tobacco, because of its role in crime as well as family deterioration.

Some argue that returning these costs to alcohol and tobacco manufacturers would compromise a large number of jobs for American workers.[110] One study refutes this claim of tobacco commerce in the state of Michigan.[111] Even tobacco-growing states are becoming less dependent economically on tobacco commerce, since tobacco manufacturers are increasingly turning to cheaper tobacco grown in developing countries.[112] The argument that American social policy supports the jobs of alcohol and tobacco workers over the availability of public health care to a large number of individuals must be addressed in the courts, and not addressed indirectly by failing to recognize that public hospitals have a legal right to bring suits to recover for expenses arising from the treatment of diseases caused by these substances.[113]

III. Economic and Historical Bases for Cost-Shifting

A. Market Analysis

The cost of treating illness and disease caused by alcohol and tobacco use is an externality. An externality can be defined as a cost associated with a market that is absorbed by a party not involved in the market transaction.[114] Public hospitals are neither the buyers nor the sellers of alcohol and tobacco. Yet, the public hospital is the party that must bear this cost.

An ideal market system sets price of a good by determining the intersection of the supply and the demand curves, that is, where

109. "[C]igarette-related diseases are responsible for more than $11 billion per year in medical expenses and $36 billion in lost productivity .... These figures do not take into account the indirect impact on families, employers, friends, community, etc., or the multiplier effects of lost incomes." A SMOKING GUN, *supra* note 77, at 146-47, 149. Meanwhile, cigarettes only contribute $29.2 billion to the economy. *Id.* at 149.

110. Chris Burritt, *Smoking Bans a Burning Issue in N.C.: Rights and Jobs Clash with Health*, ATLANTA J. & CONST., Oct. 23, 1993, at A3.

111. Kenneth E. Warner & George A. Fulton, *The Economic Implications of Tobacco Product Sales in a Nontobacco State*, 271 JAMA 771, 773-74 (1994).

112. *See* Peter Taylor, *The Smoke Ring: Politics and Tobacco in the Third World*, SOUTHERN EXPOSURE, Sept.-Oct. 1984, at 37-47; Nancy Milio, *Health Policy and the Emerging Tobacco Reality*, 21 SOC. SCI. MED. 603, 604 (1985).

113. *See infra* section IV.

114. Professor Bailey Kuklin defines an externality as a " 'third-party' effect of a market exchange: an effect on someone's well-being which is not taken into account in the market exchange." Bailey Kuklin, *The Gaps Between the Fingers of the Invisible Hand*, 58 BROOKLYN L. REV. 835, 839 (1992).

the supply for the good equals the demand.[115] If either the supply or demand is false or artificial (i.e., if the supply of the product is artificially high because the manufacturer is not charged for one of the product's components, thus the cost of supplying the product is low) the price will be artificially low, and there will be overconsumption.[116] For example, because the cost of treating cancer is borne either by the public hospitals or society at large through insurance, the cost of tobacco products is artificially low.[117] Similarly, the price of alcohol is also artificially low because the manufacturers of alcohol are not charged for the public hospitals' costs stemming from alcohol-related illness and disease.[118]

B. Historical Methods for Controlling Substance Abuse and Shifting Costs to the Manufacturers

If the cost of treatment were shifted to alcohol and tobacco manufacturers,[119] prices would increase to reflect the true costs of these

115. "The basic free market model predicts that an unregulated market will lead to the efficient price and quantity equilibrium. An efficient equilibrium exists where the supply curve intersects the demand curve and where marginal cost equals marginal benefit. Market failures can prevent the market from achieving this equilibrium. . . .Some market failures cause overconsumption. . . ." Christopher R. Leslie, *Achieving Efficiency Through Collusion: A Market Failure Defense to Horizontal Price-Fixing*, 81 CAL. L. REV. 243, 268 (1993).

116. *See* Steven Shavell, *Strict Liability Versus Negligence*, 9 J. LEGAL STUD. 1 (1980); A. MITCHELL POLINSKY, AN INTRODUCTION TO LAW AND ECONOMICS 98 (1983) [hereinafter POLINSKY]. Shavell and Polinsky argue that the price of a product should reflect the damages it causes. Spreading the losses to non-smokers masks the true cost of smoking.

117. The costs of smoking are paid for by non-smokers as well as smokers. This occurs in two ways. First, if a smoker has insurance, he will recover from his insurance carrier for his medical expenses (i.e., through Blue Cross/Blue Shield or Health Maintenance Organizations). These expenses are in turn spread among the other smoking and non-smoking policy holders. *See* A SMOKING GUN, *supra* note 77, at 150. Second, if the smoker lacks insurance or exhaust his insurance and other assets, he will turn to welfare. *Id.* The result is that the costs of smoking are then spread among the entire public body.

118. Professor Polinsky argues that the price of a product should reflect its risks. If a manufacturer is liable for the potential and actual risks of its product, it will raise the price of its product to reflect these risks, and the consumer "will be forced to take the true risks into account through the prices charged" by the manufacturer. POLINSKY, *supra* note 116, at 98.

119. Some argue that because of heavy taxes, cigarettes pay their own way: "[a]lthough nonsmokers subsidize smoker's medical care and group life insurance, smokers subsidize non-smokers pensions and nursing home payments. On balance, smokers probably pay their way at the current level of excise taxes on cigarettes." Willard Manning et al., *The Taxes of Sin: Do Smokers Pay Their Way?*, 1989 JAMA 1604. Others, however, argue that smokers provide a different kind of "benefit": "[i]f cigarette smoking provides any economic 'benefit' to the general population, it does

products, and the market would function efficiently. Several methods have been employed to place the burden on the manufacturers, such as private tort suits and pollution controls. In addition, the liquor license historically has played an indirect but pivotal role in curtailing the growth of the alcohol industry by addressing perverse economic incentives.[120]

1. Liquor Licenses

History provides repeated examples of substance abuse, particularly alcohol and narcotics, undermining societal infrastructures. Historically, alcohol and drug abuse has led to sixty- to eighty-year cycles in developed societies,[121] characterized by alternately loosening and tightening controls as substance abuse wanes and waxes, respectively.[122] For instance, England, immediately preceding the Industrial Revolution, provides the most graphic demonstration of the deleterious impact of advances in the manufacturing and marketing of harmful, addictive products.[123] With the development of early industrial machinery and improved printing equipment, the Eighteenth Century marked a rapid decline in the cost of produc-

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so by reducing Social Security payouts to smokers who die prematurely." A SMOKING GUN, *supra* note 77, at 150.

120. Perverse economic incentives are defined here as financial rewards and/or penalties that undermine society's interests in preventing rampant addiction and its sequelae.

121. Deborah M. Barnes, *Drugs: Running the Numbers—Addiction*, 240 SCIENCE 1729, 1729 (1988).

122. We interpret the duration of these cycles as the time it takes for one generation to experience the adverse sequelae of substance abuse and for subsequent generations in political power to remember the consequences of child abuse, broken families, violence, and economic disruption. In this interpretation, societies have attempted two unsuccessful interventions: prohibition, which leads to clandestine trade, and legalization, which becomes a form of implicit subsidization by societal infrastructures for industries selling addictive substances.

Several historians have concurred in general with this interpretation. In A SHOPKEEPER'S MILLENIUM: SOCIETY AND REVIVALS IN ROCHESTER, NEW YORK, 1815-1837 (1978), Paul E. Johnson traces the disruptive effects of alcohol on society and productivity. Randall M. Packard, in WHITE PLAGUE, BLACK LABOR: TUBERCULOSIS AND THE POLITICAL ECONOMY OF HEALTH AND DISEASE IN SOUTH AFRICA (1989), details how the discriminatory and inhumane working and living conditions of apartheid imported a devastating tuberculosis epidemic that persists to this day. Tom Kemp's HISTORICAL PATTERNS OF INDUSTRIALIZATION (2d ed. 1993) maintains that societies must be stable to attain industrial advances. He attributes advances in the Industrial Revolution to the employment of women and children, who consumed far less alcohol than did men. Even Adam Smith was a moralist who felt certain industries had to be regulated.

123. T.G. Coffey, *Beer Street, Gin Lane: Some Views of 18th Century Drinking*, 27 Q. J. STUD. ALCOHOL 669 (1966); BRIAN INGLIS, THE FORBIDDEN GAME: A SOCIAL HISTORY OF DRUGS 62-71 (1975).

ing and distributing alcoholic beverages.[124] The alcohol industry experienced a phenomenal boom, marketing gin and beer preferentially to poor populations at prices that allowed even beggars to become and remain intoxicated.[125] The British government, awash in new excise tax revenues from the sale of alcohol, became an enthusiastic partner to aggressive marketing aimed at even the most vulnerable populations.[126] As a result, the period from 1710 to 1760 was called the Gin Epidemic, undergoing societal trends remarkably similar to those of our own times, characterized by progressive, relentless societal decay despite the beginnings of an unprecedented technological renaissance.[127]

The problems faced during the Gin Epidemic were also much like those encountered now—addiction, social and family breakdown, bankruptcies, poverty, homelessness, crime, child abuse and neglect, and violence.[128] During this period, ironically, even in light of extraordinary new manufacturing and marketing tools, most other businesses experienced a profound economic depression,[129] much like current conditions in blighted inner city neighborhoods plagued by alcohol and drug abuse.

When addiction is widespread, the buyers and sellers of addictive substances have vested interests in shielding their transactions from all but the loosest societal controls on sales conditions, price and volume. Any successful intervention must overcome these perverse incentives. Indeed, excise taxes on alcohol levied late in

124. INGLIS, *supra* note 123, at 63; Richard Brown, *Society and Economy in Modern Britain 1700-1785*, 441-43 (1991).

125. Gin production increased from its annual baseline of one-half million gallons in 1685 to 11 million gallons by 1750. Annual per capita beer consumption also rose during this period, to a staggering 36 imperial gallons. COFFEY, *supra* note 123, at 672-73, 679.

126. INGLIS, *supra* note 123, at 69-70.

127. *Id.* at 690.

128. In 1743, Lord Lonsdale claimed of alcoholic spirits, "[t]hey not only fill our streets with madmen, and prisons with criminals, but our hospitals with cripples." Later, the Bishop of Glouchester wrote of conditions in London, "[T]here is not only no safety living in this town, but scarcely in the country now, robbery and murder are grown so frequent. . . Those accursed spiritous liquors which, to the shame of our government, are so easy to be had, and in such quantities drunk, have changed the very nature of our people." INGLIS, *supra* note 123, at 69-70. Inglis attributes the societal decline to aggressive marketing of alcohol to the abject poor, with the worst of the violence committed by illicit distillers and smugglers. *Id.* at 70; COFFEY, *supra* note 123, at 670, 672.

129. Woodcuts from the era are dramatic depictions of blighted neighborhoods, showing businesses in decay and squalor everywhere — except the distilleries and taverns. COFFEY, *supra* note 123, at 683-85, 689.

the Gin Epidemic failed dismally to lessen alcohol consumption because they merely drove commerce underground.[130]

The Gin Epidemic was subsequently resolved through an unprecedented social innovation: the liquor license, which gave legal sellers of alcoholic beverages an economic interest in policing their ranks against clandestine trade that would undercut profit margins.[131] Within a few decades, this largely unheralded innovation[132] restored England from the violent, dysfunctional society of the Gin Epidemic back to its productive and peaceful baseline.[133] This social innovation, which relieved British society of the parasitic effects of rampant alcoholism, contributed to the societal and economic progress that followed with the Industrial Revolution.[134]

In subsequent epochs through the present, nearly-synchronized long cycles of substance abuse,[135] economic downturns,[136] and crime[137] have been noted but seldom formally linked.[138] The current economic cycle, in spite of unprecedented technological ad-

130. Confronted with widespread bootlegging, the London authorities unleashed an army of 12,000 spies to enforce excise taxes. This move further increased the unpopularity of excise taxes. *Id.* at 675. *See also* INGLIS, *supra* note 123, at 69-70.

131. INGLIS, *supra* note 123, at 66-69.

132. *See, e.g.*, GEORGE E. VAILLANT, THE NATURAL HISTORY OF ALCOHOLISM 99 (1983), which expresses wonder how the Gin Epidemic ended, given the lack of success of subsequent interventions.

133. *See* COFFEY, *supra* note 123. Gin production dropped 90 percent, to 1 million gallons, by 1790, with concomitant decreases in alcoholism. *Id.* at 673. By 1765, local infrastructures had recovered sufficiently to support street paving, lighting, and police commissioners. By the turn of the nineteenth century, the character of British society had completely recovered, and London was again noted to be a remarkably safe and congenial city. *Id.* at 677-78.

134. *See* INGLIS *supra* note 123, at 72-104.

135. *See supra* notes 121-22 and accompanying text, and ROBERT WOOD JOHNSON FOUNDATION REPORT, *supra* note 1, at 10-11. *See generally* JACK S. BLOCKER, JR., AMERICAN TEMPERANCE MOVEMENTS: CYCLES OF REFORM (1989) (describing cycles of substance abuse alternating with moralistic—and ultimately counterproductive—overreactions).

136. Economic long waves, known as Kondratieff cycles, appear somewhat related to U.S. wholesale prices. *See* WALLACE C. PETERSON, INCOME, EMPLOYMENT AND ECONOMIC GROWTH 607-11 (5th ed. 1984). We infer that uncompensated societal costs eventually cause increases in prices of raw materials.

137. Richard Lacayo & Julie Johnson, *Three Shots at Crime*, TIME, Nov. 22, 1993, at 47, 49.

138. The Temperance Movement in the nineteenth and early twentieth century, although widely viewed as moralistic in tone, equally emphasized the adverse economic impact of alcoholism. *See* Harry Gene Levine, *The Discovery of Addiction: Changing Conceptions of Habitual Drunkenness in America*, 39 J. STUD. ON ALCOHOL, 143, 159, 161 (1978). Unfortunately, the movement's overzealous moralistic crusade and the dismal failure of Prohibition discredited its insights into deleterious effects of alcohol on economics and public health. BLOCKER, *supra* note 135, at 138.

vances,[139] is remarkable for an exceptionally prolonged (and heretofor unexplained) productivity slowdown,[140] infrastructural decay,[141] and recent decline even in essential scientific investments.[142] The prolongation of this cycle of substance abuse and its associated productivity downturn[143] are explained by related in-

139. See Michael J. Piore, *The Revival of Prosperity in Industrial Economies: Technological Trajectories, Organizational Structure, Competivity, in* TECHNOLOGY AND THE WEALTH OF NATIONS: THE DYNAMICS OF CONSTRUCTED ADVANTAGE 322, 329-31 (Dominique Foray & Christopher Freeman eds. 1993).

140. Over a 15-year period, annual productivity growth has fallen drastically in most sectors of the economy, averaging overall more than a 70 percent drop in annual labor productivity growth. *See* WILLIAM J. BAUMOL & KENNETH MCLENNAN, *U.S. Productivity Performance and Its Implications, in* PRODUCTIVITY GROWTH AND U.S. COMPETITIVENESS 3, 7 (1985); Edward N. Wolff, *The Magnitude and Causes of the Recent Productivity Slowdown in the United States: A Survey of Recent Studies, in* PRODUCTIVITY GROWTH AND THE COMPETITIVENESS OF THE AMERICAN ECONOMY 29, 50 (Standley W. Black ed. 1989); John W. Kendrick, *Policy Implications of the Slowdown in U.S. Productivity Growth, in* PRODUCTIVITY GROWTH AND THE COMPETITIVENESS OF THE AMERICAN ECONOMY, *supra* at 75, 93. Substantial burdens on retirement funds and declines in overall standards of living will result unless productivity growth recovers to rates last seen in the early 1970s. *See* HENRY J. AARON ET AL., CAN AMERICA AFFORD TO GROW OLD? PAYING FOR SOCIAL SECURITY 96-98 (1989). While U.S. productivity may have risen recently, such gains may have resulted from undesirable devaluation of the dollar, decline in living standards, and neglect of American infrastructures—which actually have further increased pressures on retirement funds. *See* George J. Church, *We're #1, And It Hurts*, TIME, Oct. 24, 1994, at 50, 55; John Rothchild, *How a Falling Dollar Hurts Us*, TIME, July 4, 1994, at 57. *See also* JULIET B. SCHOR, THE OVERWORKED AMERICAN: THE UNEXPECTED DECLINE OF LEISURE (1991).

141. Rodrick Wallace, *Urban Desertification, Public Health and Public Order: 'Planned Shrinkage', Violent Death, Substance Abuse and AIDS in the Bronx*, 31 SOC. SCI. MED. 801, 809 (1990); Deborah Wallace, *Roots of Increased Health Care Inequality in New York*, 31 SOC. SCI. MED. 1219, 1223-24 (1990); Rodrick Wallace & Deborah Wallace, *Contagious Urban Decay and the Collapse of Public Health*, HEALTH/PAC BULLETIN, Summer 1991, at 13, 16.

142. Leon M. Lederman, *Science: The End of the Frontier?* SCIENCE (supplement, Jan. 1991). Longstanding decreases in funding have compromised American scientists' morale and overall national competitiveness. *Id.*, at 8-9, 14-16.

143. This cycle of substance abuse has recruited both powerful new technologies and other harmful industries. This includes (1) Advances in manufacturing and mass media, *see* Soren Sigvardsson et al., *Prevention and Treatment of Alcohol Abuse: Uses and Limitations of the High Risk Paradigm*, 32 SOC. BIO., 185, 192-193 (1985); (2) Development of advertising methods as a " 'unique opportunity' for the social scientists to function as 'social engineers' " (quoted from interview with Dr. Ernest E. Dichter, a pioneer in tobacco advertising), *see* MAURINE B. NEUBERGER, SMOKE SCREEN: TOBACCO AND THE PUBLIC WELFARE 36 (1963); (3) With the merger of tobacco and alcohol industries, the development of lifestyle advertising, *see* Robert McBride, *Industry Structure, Marketing, and Public Health: A Case Study of the U.S. Beer Industry*, 12 CONTEMPORARY DRUG PROBLEMS, 593, 600 (1985); (4) The design and marketing of cheap and highly addictive "crack" cocaine, *see* Stephen W. Nicholas, *Afterword* to COCAINE TRUE, COCAINE BLUE (Eugene Richards, ed., 1994), and (5) Compounding of violence with firearms, particularly high-capacity handguns

sights in computer science,[144] economic history[145] and anthropology,[146] infrastructure economics[147] and parasitology.[148]

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and assault weapons. *See* Kenneth Tardiff et al., *Homicide in New York City: Cocaine Use and Firearms*, 272 JAMA 43, 45 (1994); JOSEPH F. SHELEY & JAMES D. WRIGHT, NATIONAL INST. OF JUSTICE, GUN ACQUISITION AND POSSESSION IN SELECTED JUVENILE SAMPLES (Dec. 1993); CAROLYN REBECCA BLOCK & RICHARD BLOCK, NAT'L INST. OF JUSTICE, STREET GANG CRIME IN CHICAGO (Dec. 1993).

144. In computer tournaments simulating competitive economies, overall economic efficiency was optimized through a policy of tit-for-tat, i.e., rapid, predictable, and limited retaliation for an opponent's exploitative behavior, but also similar rewards for cooperative behavior. *See generally* ROBERT AXELROD, THE EVOLUTION OF COOPERATION (1984) (describing results and interpretations of such computer tournaments/scientific experiments). By contrast, the policy of always cooperating—as public hospitals do by implicitly subsidizing alcohol and tobacco industries—gives an opponent consistent incentives to exploit. When ethical standards alone control business managers' restraint from exploitative behavior (and economic upturns thereby increase opportunities to profit from unethical behavior), computer simulations predict long term oscillations—similar to cycles linking substance abuse with economic downturn. *See* Thomas H. Noe & Michael J. Rebello, *The Dynamics of Business Ethics and Economic Activity*, 84 AM. ECON. REV. 531, 543, 544 (1994).

145. Fogel demonstrated the long-term economic benefits of health advances, which account for about 50% of economic growth since 1790. *See* Robert W. Fogel, *Economic Growth, Population Theory, and Physiology: The Bearing of Long-term Processes on the Making of Economic Policy*, 84 AM. ECON. REV. 369, 388 (1994).

146. Ostrum found eight rules that characterized societies that were successful in managing common, depletable resources (compared to those that were not): (1) Participants understand clearly defined boundaries, (2) Rules are appropriate for the full range of likely conditions, (3) Most participants are eligible to modify rules by consensus, (4) Participants monitor each other to prevent violations, (5) Graduated sanctions, whose severity depends on seriousness and context of offenses, are applied to violators by accountable officials, (6) Participants have rapid access to low-cost conflict-resolution mechanisms, (7) Participants have rights to organize, and (8) These structures are nested at many levels of organization. *See* ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION 90-102 (1990). Clearly few, if any, of these mechanisms protects public hospitals against externalities imposed by alcohol and tobacco industries.

147. Arrow and Kurz regard public infrastructures as a bridge between successive generations, allowing long-term investment and resource flows despite the impossibility of markets. *See* KENNETH J. ARROW & MORDECAI KURZ, PUBLIC INVESTMENT, THE RATE OF RETURN, AND OPTIMAL FISCAL POLICY xiv (1970). The growing neglect of American children is persuasive evidence of the failure of investment in infrastructures. *See supra* note 83 and accompanying text. Arrow and Kurz demonstrated that public funds for infrastructures should be invested at rates of return comparable to those of private firms. ARROW & KURZ, *supra*, at xiv. By contrast, substance abuse prevents public hospitals from investing at optimal rates of returns, for instance, in preventing disease. *See* Scheffler & Paringer, *supra* note 20. Substance abuse thereby forces public hospitals to compete with other infrastructures yielding *negative* returns on investment, such as prisons. Aschauer confirmed that investment in productivity-enhancing public infrastructures is two to four times as beneficial to the economy as private investment, and that half the productivity slowdown can be attributed to failure to invest in such infrastructures. DAVID A. ASCHAUER, ECONOMIC POLICY INSTITUTE, PUBLIC INVESTMENT AND PRIVATE SECTOR GROWTH: THE ECONOMIC BENEFITS OF REDUCING AMERICA'S "THIRD DEFICIT" (1990).

Cross-cultural comparisons are revealing in assessing the importance of societal controls like the liquor license. For example, in Irish and Russian societies, widespread alcohol addiction is ascribed to a lack of traditional controls against alcohol abuse and to an absence of alternative channels for creativity.[149] The toll of alcoholism is correspondingly far greater in Russia than in the United States. Comparing figures from the mid-1970s,[150] Russia's annual consumption of absolute alcohol per capita over age 15 was almost twice that of the United States (20 versus 10.26 liters). In addition, the percentage of family spending on alcohol was over twelve times higher (18% versus 1.3% of family budget), the prevalence of heavy drinking over twice as high (24% versus 9-10% of the population), the prevalence of alcohol dependency four times as high (11% versus 2-3%) and the percentage of gross national product eroded by alcohol-related economic loss over ten times as great (31.7% versus 3.1%).[151] Apparently, the heavy-drinking American subculture served by public hospitals suffers social disruption and productivity losses resembling the Russian culture described by these dismal statistics.

The innovation proposed in this Article builds on the success of the liquor license. Thus, the consumer becomes society's agent in the transaction through a vested interest in personal health and access to health care. By making the producer responsible for the

148. Biological parasites have natural selection advantages in developing forms of virulence that help them find a new host, even if they kill the old host. *See* Paul W. Ewald, *The Evolution of Virulence*, 268 SCI. AM. 86, 88 (1993). To prevent virulent evolution, Ewald advocates a strategy that makes the parasite pay heavily for virulent behavior. Ewald, *supra*, at 93. This is basically a tit-for-tat strategy. *See supra* note 143. Wallace & Wallace compare causes of urban decay—which include infrastructure cutbacks, urban fires, and substance abuse—to biological parasites. *See* Rodrick Wallace & Deborah Wallace, *Urban Fire as an Unstabilized Parasite: the 1976-1978 Outbreak in Bushwick, Brooklyn*, 15 ENV. & PLANNING 207, 210 (1983). Criteria for biological parasites were established by H. D. Crofton, *A Quantitative Approach to Parasitism*, 62 PARASITOLOGY 179, 192 (1971). Following Wallace and Wallace, we apply Crofton's definition of parasitism, drawing an analogy between biological and economic competition: (1) The parasite (harmful industry) is dependent on the host (vulnerable community, and ultimately the public hospital that serves it); (2) The parasite has a higher reproductive rate (return on investment) than the host (community's economic base); (3) Parasites kill heavily infected hosts (urban decay); and (4) Infections tend to be aggregated, with a majority of parasites in relatively few hosts (Some populations are extremely vulnerable). Wallace & Wallace, *supra*, at 210.

149. *See* Boris M. Segal, *The Soviet Heavy-drinking Culture and the American Heavy-Drinking Subculture*, 472 N.Y. ACAD. SCI. 149, 150 (Thomas F. Babor ed., 1986).

150. *See id* at 154.

151. *Id.*

costs of treating addiction and disease in the buyer, the alcohol and tobacco industries would be encouraged to reverse the trends of the past fifty to seventy-five years which have increased product availability, expenditures on marketing, and addiction potential.[152]

2. Private Tort Suits

Unlike tort suits by individuals, which seek to allow injured consumers to recover damages caused by their own substance abuse,[153] the proposal herein would not introduce an additional perverse incentive by retroactively rewarding harmful overconsumption. Furthermore, our solution would act to prevent rather than treat disease, by compensating public hospitals—which could then intervene earlier in arresting addiction before it progresses to outright disease—and prospectively holding the alcohol and tobacco industries accountable for the consequences of irresponsible product design and marketing.

If costs associated with alcohol and tobacco were recovered through lawsuits, health care could be improved for all indigent patients.[154] Indeed, if a substantial portion of the amount borne by the public hospitals were recovered through litigation, public hospitals would be able to better respond to the epidemics caused by alcohol and tobacco and to other critical concerns such as the AIDS epidemic.[155]

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152. *See* Robert McBride, *Industry Structure, Marketing, and Public Health: A Case Study of the U.S. Beer Industry*, 12 CONTEMP. DRUG PROBS. 593, 600-609, 618 (1985); Richard Cowen, James F. Mosher, *Public Health Implications of Beverage Marketing: Alcohol as an Ordinary Consumer Product*, 12 CONTEMP. DRUG PROBS. 621, 624-42, 651-52 (1985).

153. *See* James K. Hammitt, Stephen J. Carroll & Daniel A. Relles, *Tort Standards and Jury Decisions*, 14 J. LEGAL STUDIES 751 (1985); Troyen A. Brennan & Robert F. Carter, *Legal and Scientific Probability of Causation of Cancer and Other Environmental Disease in Individuals*, 10 J. HEALTH POL. POL'Y LAW 33 (1985). In application to rare diseases analogous to toxic torts, our approach would obviate the need for strategies which compromise the scientific basis for standards of proof. *See, e.g.*, Jeffrey Trauberman, *Statutory Reform of "Toxic Torts", Relieving Legal, Scientific, and Economic Burdens on the Chemical Victim*, 7 HARV. ENVTL. L. REV. 177 (advocating far-reaching relaxation—amounting arguably, to abandonment—of scientific standards of evidence in civil litigation).

154. Financial pressures on public hospitals have significantly reduced access to health care in poor populations, and have increased the costs of treatment. *See* Marjorie S. Robertson & Michael R. Cousineau, *Health Status and Access to Health Services Among the Urban Homeless*, 76 Am. J. Pub. Health 561, 562 (1986); Hilts, *supra* note 68. *See also* Hadley et al., *supra* note 12; Bindman et al., *supra* note 71. If public hospitals can recover some of these external costs, more funds could be directed toward improving indigent care.

155. Experts argue that rationing of medical services exists, particularly for the poor. "Rationing, in its broadest sense, means denying people health services they

3. Statutory Pollution Control

The failure of market, regulatory and legal controls to curtail growing alcohol- and tobacco-related societal problems resembles the widespread environmental degradation that occurred before polluting industries were held financially accountable for cleanup costs. Environmental statutes provide one example of the legal solutions proposed in this Article.

The widespread and expanding damage to American society by alcohol and tobacco results from a "tragedy of the commons,"[156] similar to the devastating industrial pollution prior to environmental legislation. Each polluting industry could argue that it should not be held liable because, if it were the only polluter, its contribution would do little harm. Until each industry was held accountable for its contribution to the actual, ongoing pollution load, the environment could not withstand the cumulative burden. Since the advent of "cradle-to-grave" accountability of industries for their pollutants, the United States has made significant progress in cleaning many ecosystems, in sharp contrast to nations without such controls, such as Eastern European countries.

C. Lack of Attention to the Problem

There are several reasons why there has been a lack of attention, both in economics and the law, to the shifting of the costs of alcohol and tobacco abuse to the shoulders of the manufacturers. First, there is a general impression that government is responsible for these costs.[157] After all, these are public hospitals, and the govern-

need and want because resources are limited." Kinsey Wilson, *Nobody Likes the R-Word; Rationing of Care is Unpopular, But It's Happening Just The Same*, NEWSDAY, Nassau and Suffolk Edition, Apr. 22, 1993, at 6. As Ms. Wilson suggests, "[t]he net effect of such limitations is a kind of ad-hoc rationing system that discriminates based on a patient's ability to foot the bill." *Id.* Obviously, if public hospitals were able to recover a substantial amount of their expenditures from alcohol and cigarette manufacturers, these health care facilities could allocate more of their limited funds to patients suffering from diseases such as AIDS.

156. *See* Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968); WILLIAM POUNDSTONE, PRISONER'S DILEMMA (1992)(describing a formalization of the tragedy of the commons, known as the prisoner's dilemma, which examines decision-making under options that depend in part on concurrent choices of a potentially exploitive opponent); *supra* notes 143-48.

157. One need only look at their respective state statute regarding hospital care for the indigent to come to the conclusion that states have a duty to assist those residents who are financially unable to pay for hospital care. *See, e.g.*, GA. CODE ANN. § 31-8-1 (1991):

> In order to promote and preserve the health of the people of this state, there is established a Hospital Care for the Indigent Program to be administered

ment created them in order to treat people with all illnesses, including those resulting from tobacco and alcohol.[158] Further, there is an impression that costs, borne by hospitals for the treatment of patients with illnesses and diseases flowing from alcohol and tobacco abuse, are not damages. Compensatory damages are intended to compensate the injured party for the actual injuries sustained to person and property, as well as pain and suffering.[159] This definition of damages does not, at least at first, include the losses to public hospitals flowing from the treatment of third parties, such as low-birth-weight infants and others suffering injury and disease caused by alcohol and tobacco.[160] Historically, it may be accurate to suggest that the causes of disease could not be identified. Today, however, doctors and scientists are able to trace the illnesses that flow from the excess consumption of alcohol and tobacco.[161]

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by the Department of Human Resources. The purpose of this program is to assist counties in the purchase of hospital care for persons who are ill or injured and who can be helped by treatment in a hospital but are financially unable to meet the full cost of hospital care from their own resources. . .

Id.

158. *Id.* In Georgia, to be qualified to receive aid for hospital care, "a person must be an indigent resident of this state and must be a person for whom hospital care is not available under any other program." GA. CODE ANN. § 31-8-7 (1991). "Indigent Person" is defined as "any resident who is ill or injured and who from his own resources. . .is financially unable to meet the full cost of hospital care as prescribed or ordered by a physician." GA. CODE ANN. § 31-8-2 (1991).

159. *See* W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 65, at 608 (5th ed. 1984) [hereinafter PROSSER & KEETON].

160. The question whether a particular item of damage is proximate or remote has to be answered in each case, i.e., how far is the chain of legal causation to be allowed to run? Even in cases of tangible, pecuniary damage, the answer to this question is a matter of policy. In tort law, public hospitals likely would be considered as third party bystanders or rescuers. See *infra*, part IV of this Article, which discusses the various legal theories by which a hospital could recover for expenses.

161. Scientific proof of health hazards of alcohol and tobacco is no longer controversial. The adverse effects of alcohol have been established at least since the nineteenth century. *See* Harry Gene Levine, *The Discovery of Addiction: Changing Conceptions of Habitual Drunkenness in America*, 39 J. STUD. ON ALCOHOL, 143, 143-144 (1978). Scientists have made remarkable advances in understanding the effects of alcohol and tobacco through epidemiology and biology. *See generally*, Austin Bradford Hill, *The Environment and Disease*, 58 PROC. OF THE ROYAL SOC'Y OF MED. 295 (1965) (establishing criteria for epidemiological investigation, particularly regarding smoking hazards); U.S. SURGEON GEN., THE HEALTH CONSEQUENCES OF SMOKING: CANCER 15-20 (1982); Mervyn Susser, *What Is Cause and How Do We Know One?*, 133 AM. J. EPIDEMIOLOGY 635 (1991) (updating those criteria and summarizing evidence leading to a static epidmiologic framework). The U.S. Surgeon General has long concluded that tobacco causes a large number of diseases, and, in fact, that no other causal relationships between exposure and disease are as well established as for smoking with heart disease and lung cancer. *See Surgeon General's Report* 25 YEARS

In examining whether such costs are recoverable damages, a public hospital could be compared to county government and its expenditures for road maintenance. That is, just as it is difficult to ascertain which vehicles cause substantial damages to highways, it is an equally arduous task to pinpoint the cause of the injuries suffered by those receiving treatment at public hospitals. Therefore, just as county governments do not charge individual highway users for the particular damage they do to highways,[162] arguably it would be inappropriate for hospitals to charge manufacturers of alcohol and tobacco for the damages that their products cause to hospitals because it is difficult to prove that the consumption of their products caused the particular losses suffered by the hospital.[163]

The lack of economic and legal analysis of these costs may be a result of the prevalent view that the expenditures by public hospitals, caused by the treatment of illnesses related to tobacco and alcohol, are merely indirect costs. Every lawyer learns the distinction between trespass and trespass on the case.[164] That is, at common law, different actions were available to a claimant depending on whether the injury sustained was caused directly by a defendant's actions or whether the injury was the indirect consequence of the defendant's actions. For example, trespass would lie for direct injury, but if the injury was indirect, trespass on the case was the

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OF PROGRESS (summarizing the progression of evidence leading to current understanding of smoking hazards).

162. An exception is the specific taxation of large trucks, which is based on measures of road utilization. Clifford Winston, *Efficient Transportation Infrastructure Policy*, 5 J. ECON. PERSP. 113, 115-116 (1991). Experts advocate improving such measures to reflect better the damages they inflict on roads. *Id.* at 116.

163. The problem in proving that the consumption of alcohol or tobacco caused the particular losses suffered by the hospital is not without precedent. In several cases, courts have employed the "market share theory" of liability to hold manufacturers liable for injuries that their product may not even have caused in the first place. *See* discussion *infra* note 200 and accompanying text. For example, in Hymowitz v. Eli Lilly and Co., 539 N.E.2d 1069, 1075 (N.Y. 1989), the New York Court of Appeals adopted a market share theory of liability to hold manufacturers of diethylstilbestrol (DES) liable for injuries their product might not have caused. The Court of Appeals stated that "it would be inconsistent with the reasonable expectations of a modern society to say to [the DES] plaintiffs that because of the insidious nature of an injury that long remains dormant, and because so many manufacturers, each behind a curtain, contributed to the devastation, the cost of injury should be borne by the innocent and not the wrongdoers." *Id.* at 1075.

164. The landmark case making this distinction is Brown v. Kendall, 60 Mass. (6 Cush.) 292 (1850). In *Brown*, the defendant unintentionally struck the victim's eye while swinging a stick in an attempt to separate two fighting dogs. This decision became famous because it was one of the first to adopt a negligence standard, instead of a strict liability trespass rule for injuries "directly" caused by the defendant's actions. *See* PROSSER & KEETON, *supra* note 159, at 163.

appropriate writ.[165] As the importance of the distinction between trespass and trespass on the case has disappeared, so has the law given less attention to the distinction between a direct and an indirect injury.[166] Thus, today if a public hospital must treat the poor, arguably such treatment is a sufficiently direct expense to be recoverable in litigation.

Another major reason for the lack of analysis in this area is that the consumers of tobacco and alcohol are often viewed as having assumed the risk.[167] That is, if the purchasers knew and assumed the risk of cancer or cirrhosis of the liver and voluntarily consumed tobacco or alcohol products knowing of the risks, they cannot recover in tort.[168] While some consumers may assume the risks in regard to alcohol and tobacco, there is no basis for suggesting that public hospitals have assumed the risk. The fact that the consumer knows the risks of tobacco or alcohol consumption should not bind public hospitals to pay the costs of the diseases and illnesses. In addition, some patients, like bystanders, did not assume the risk. For example, the newborn infant of a mother who smokes, or the person injured by a drunk driver, did not assume the risk of smoking or drinking.

The costs of tobacco and alcohol consumption are real for public hospitals and have not been assumed by them. The technical arguments and the public policies underlying the assumption of risk doctrine are inapplicable to the public hospital plaintiff; therefore, this doctrine should not be a roadblock to manufacturer liability.

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165. PROSSER & KEETON, *supra* note 159, at 163.

166. *Id.*

167. For a good discussion of the assumption of risk defense, see A. A. White, *Strict Liability of Cigarette Manufacturers and Assumption of Risk*, 29 LA. L. REV. 589, 601 (1969). William Prosser lists the elements of the defense of assumption of risk, as it would be asserted in cigarette cases. First, there must be a risk created by the defendant. Second, the plaintiff both must know of the facts which create the risk and he must comprehend and appreciate the danger. Lastly, the plaintiff's choice to incur this danger must be completely free and voluntary. PROSSER & KEETON, *supra* note 159, at 487.

168. Several courts who have dealt with attempts by consumers of alcohol or tobacco to recover for injuries have denied an award of damages for the plaintiff, justifying this denial in the theory that the consumer has chosen to expose himself to such risks and therefore, he should bear the responsibility for the losses he incurs. *See, e.g.*, Pemberton v. American Distilled Spirits, 664 S.W.2d 690, 692 (Tenn. 1984); Kotler v. American Tobacco Co., 926 F.2d 1217, 1224-25 (1st Cir. 1990), *vacated*, 112 S. Ct. 3019 (1992).

IV. Legal Analysis

A. Causes of Action

Numerous causes of action may be set forth by public hospitals in an action to recover expenditures from the manufacturers of alcohol and tobacco. Some of these causes of action include the traditional actions of negligence,[169] failure to warn,[170] fraud,[171] strict liability for producing a defectively designed product[172] and

169. Traditionally, plaintiff is entitled to recover damages in negligence if the defendant owed a duty of due care to the plaintiff, if the defendant breached that duty, and if the breach was the proximate cause of that duty. PROSSER & KEETON, *supra* note 154, § 30, at 164-65.

170. *See, e.g.*, Brune v. Brown Forman Corp., 758 S.W.2d 827 (Tex. Ct. App. 1988); Hon v. Stroh Brewery Co., 835 F.2d 510 (3d. Cir. 1987); and RESTATEMENT (SECOND) OF TORTS § 402A cmt. j (1965)(stating requirements for successful failure to warn claim).

The latest word from the Supreme Court on the preemption of failure-to-warn cigarette cases by consumers was handed down in Cipollone v. Liggett Group, Inc., 112 S. Ct. 2608 (1992). In *Cipolone*, the Supreme Court found that the 1969 Cigarette Labeling Act preempted the Cipollones' failure to warn claim "insofar as claims. . .require a showing that respondents' post-1969 advertising or promotions should have included additional, or more clearly stated warnings." *Id.* at 2621. This preemption, however, is inapplicable to third party recovery, discussed *infra* part IV. B.1. The warnings required by Congress have no effect on the public hospitals that must treat the patient and bear the loss.

171. In cigarette cases, plaintiffs traditionally make two types of fraud arguments. First, a plaintiff may base a fraudulent misrepresentation claim alleging that the manufacturer used its advertising to neutralize the warnings required by the Act (this type of claim is now preempted, as decided by *Cipollone*, 112 S. Ct. at 2623. Secondly, a plaintiff may base his allegations of intentional fraud and misrepresentation on the theory of false statements of material fact made in advertising. The Supreme Court in *Cipollone* held that this was a viable claim, based on the duty not to deceive. *Id.* at 2624. The causes of action for design defect and negligent testing or manufacture survive under *Cipollone*.

172. Since the early 1960s, most courts have recognized a strict products liability cause of action in tort. *See, e.g.*, Greenman v. Yuba Power Prods., 377 P.2d 897, 900 (Cal. 1963) and the RESTATEMENT (SECOND) OF TORTS § 402A (1977) (approved by the ALI in 1965). Briefly, to recover in strict products liability for *design* defect, most courts have adopted either a consumer expectations test or a risk-utility test. Under a consumer expectations test, the plaintiff must show that the product was more dangerous than the ordinary consumer would have expected. *See* RESTATEMENT (SECOND) OF TORTS § 402A cmt. i (1977). Under the risk-utility test, a product is defective if its risks outweigh its utility. *See* Barker v. Lull Eng'g Co., 573 P.2d 443, 456 (Cal. 1978) (allowing plaintiff to use either test).

One of the leading cases regarding a strict liability claim against a tobacco manufacturer is *Roysdon v. R.J. Reynolds Tobacco Co.*, 623 F. Supp. 1189 (E.D. Tenn. 1985), *aff'd*, 849 F.2d 230 (6th Cir. 1988). The plaintiff in *Roysdon* alleged that R.J. Reynolds failed to adequately warn him of the risk of heart disease, and that Reynolds' cigarettes were defective and unreasonably dangerous. *See also* Dewey v. R.J. Reynolds Co., 577 A.2d 1239 (N.J. 1990) (preserving strict liability claim against tobacco companies); and Cipollone v. Liggett Group, Inc., 112 S. Ct. 2608.

absolute liability.[173] In addition, the public hospitals may rely on other less typical causes of action such as unjust enrichment[174] and indemnity.[175] This section will discuss actions based on (i) quasi-contractual recovery, (ii) the public trust doctrine and (iii) negligence, applying those actions to the context of suits by public hospitals against alcohol and tobacco manufacturers.

1. Quasi-Contract Theory

The public hospitals could sue a tobacco or alcohol manufacturer under a quasi-contract theory of recovery. This theory relies on the principle that if the government is forced to assume a duty of repair that should have been remedied by the tortfeasor, it should be entitled to restitution for the cost of performance in terms of the money saved by the defendant.[176] For example, in *Brandon Township v. Jerome Builders, Inc.*,[177] the plaintiff, a township, had warned defendants to repair their dam, which was threatening to break. When the defendants failed to heed the Township's warning, the Township was forced to take emergency action to repair the dam in order to avoid a collapse.[178] Thereafter, the Township brought an action for recovery of its costs in repairing the dam, and

173. Under an absolute liability theory, liability is imposed even without proof of a defect. *See, e.g.* Frank J. Vandall, *Reallocating the Cost of Smoking: The Application of Absolute Liability to Cigarette Manufacturers*, 52 OHIO STATE L.J. 405 (1991); Robert L. Rabin, *Essay: A Sociolegal History of the Tobacco Tort Litigation*, 44 STAN. L. REV. 853 (1992). *But see* Sheila L. Birnbaum, *Unmasking the Test for Design Defect: From Negligence [to Warranty] to Strict Liability to Negligence*, 33 VAND. L. REV. 593, 600 (1980). Under absolute liability, the plaintiff need only show causation. *See also* PROSSER & KEETON, *supra* note 159, at 610-11 (summarizing strict liability and explaining that liability under strict liability is not absolute).

174. "The fundamental substantive basis for restitution is that the defendant has been unjustly enriched by receiving something tangible or intangible, that properly belongs to the plaintiff. Restitution rectifies unjust enrichment by forcing restoration to the plaintiff." D. B. DOBBS, LAW OF REMEDIES 371 (1993).

175. "Indemnity claims are similar to contribution claims but seek a full recovery instead of a share." *Id.* at 408.

176. *See* RESTATEMENT OF RESTITUTION §§ 112-14 (1937). Section 112 allows one to recover in restitution where a benefit is conferred upon another under circumstances making such an action necessary for the protection of the interests of the other or of third person. Section 113 allows one to recover in restitution for the performance of another's noncontractual duty to supply necessaries to a third person in an emergency. Section 114 allows restitution for the performance of another's duty to the public. For another example of case law, *see* Peninsular & Oriental Steam Navigation Co. v. Overseas Oil Carriers, Inc., 553 F.2d 830, 834 (2d Cir. 1977), *cert. denied* 434 U.S. 859 (1977) (imposing liability based on the RESTATEMENT OF RESTITUTION § 114 for costs incurred by plaintiff during an emergency medical rescue at sea).

177. 263 N.W.2d 326 (Mich. 1977).

178. *Id.* at 327.

the court allowed it to recover based on the defendant's unjust enrichment.[179] Like Brandon Township, public hospitals have paid for the foreseeable damages caused by alcohol and tobacco products. Thus, public hospitals arguably may proceed in quasi-contract.

2. *Public Trust Doctrine*

The public hospital may also sue under the public trust doctrine. Under this theory, certain public properties are held in trust by the sovereign for the benefit of the public.[180] Therefore, the government, as trustee for the people, bears the responsibility of preserving and protecting the right of the public to use these properties.[181] Though typically the public trust doctrine involves the protection of such public uses as navigation, commerce and fishing,[182] courts have expanded the interests protected by this doctrine in order to make it "sufficiently flexible to encompass changing public needs."[183]

Applying this theory to the instant situation, a city may argue that a public hospital, as public property, is held in trust for the benefit of the public. As trustee, the city has a responsibility to maintain this trust. When a tobacco or alcohol manufacturer interferes with the city's trust obligations, the city should be able to recover from the manufacturer for this breach.[184]

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179. *Id.* at 328.

180. *See* District of Columbia v. Air Florida Inc., 750 F.2d 1077, 1082 (D.C. Cir. 1984); National Audubon Soc'y v. Super. Ct. of Alpine Cty., 658 P.2d 709, 718, *cert. denied*, 464 U.S. 977 (Cal. 1983).

181. *See* BLACK'S LAW DICTIONARY 1232 (6th ed. 1990).

182. *Air Florida*, 750 F.2d at 1082.

183. Marks v. Whitney, 491 P.2d 374, 380 (Cal. 1971).

184. Perhaps the most contemporary analogy involves the case of *Air Florida*, 750 F.2d 1077. In *Air Florida*, one of the defendant's airplanes crashed into the Potomac River, obstructing navigation of the river and damaging a major bridge. One of plaintiff's theories was the public trust doctrine. The District of Columbia contended that Congress had "implicitly delegated to it the United States' public trust responsibilities for the river and that. . . it is obliged to keep the river free from impediments to navigation and from impurities." *Id.* at 1080-81. The airline had a duty of care not to interfere with the city's trust obligations, and, thus, the negligently caused plane crash breached this duty of care. Therefore, the city contended, it should be able to recover its crash response costs.

The court ruled in the defendant's favor on other grounds, but not without first stressing that it *did not* reject plaintiff's public trust theory of recovery. *Id.* at 1084. The *Air Florida* case has left open the viability of the public trust doctrine.

3. Negligence

The public hospitals may consider suing under a negligence theory premised upon a tobacco or alcohol manufacturer's duty of reasonable care to the public at large. Under this theory, the government represents the public in a response cost recovery action. In such an action, the government sues for recovery of emergency services rendered in response to the injury caused by the tortfeasor.[185] For example, in *District of Columbia v. Air Florida, Inc.*,[186] the city, as plaintiff, sued Air Florida to recover its costs in cleaning up an air plane crash in the Potomac River. The plaintiff asserted that the injury sustained was the depletion of tax resources through the "extraordinary [use of] emergency services" on account of the actions by the negligent tortfeasor.[187]

Similarly, in the present situation, the government may claim that the manufacturers' depletion of city tax resources through the "extraordinary" use of medical services should be reimbursed by the alcohol and tobacco companies that have manufactured the goods causing the diseases in indigent patients treated by the public hospitals.[188]

B. Theories of Liability

Under the privity concept, developed in 1842, liability did not extend beyond contracting parties.[189] Numerous legal fictions, such as inherently dangerous products, invitation and fraud, were

185. *See Air Florida*, 750 F.2d at 1078; City of Flagstaff v. Atchison, Topeka & Santa Fe Ry., 719 F.2d 322, 323 (9th Cir. 1983).

186. 750 F.2d 1077.

187. *Id.* at 1078.

188. In both the *Flagstaff* and the *Air Florida* case, the court found for the defendant. In both cases a municipality brought suit against a tortfeasor to recoup the expenses for rescue and cleanup operations following a disaster. The court in *Flagstaff* reasoned that the legislative decision to make the city bear the costs of supplying emergency services is a rational one, and that even if it could be shown that the tortfeasor and not the city was the "more efficient cost avoider," the burden could not be shifted to the tortfeasor. 719 F.2d at 323-24.

In addition, the *Flagstaff* court relied on the "settled expectations" argument, i.e., that society's settled expectations command that the government provide the emergency service free of charge to negligent tortfeasors. *Id.* at 323. However, the court acknowledged that "settled expectations sometime must be disregarded where new tort doctrines are required to cure an unjust allocation of risks and costs." *Id.*

Air Florida can be distinguished. It involved a one-time event, a true emergency. Making public hospitals bear medical costs of indigent patients, in contrast, is a daily, routine method of shifting losses to a third party. Such expenses should be viewed as a cost of doing business and placed back on the manufacturers.

189. Winterbottom v. Wright, 10 M.&W. 109, 152 Eng. Rep. 402 (Exchequer of Pleas, 1842)

developed by the courts in order to skirt the privity defense.[190] Finally in *MacPherson v. Buick Motor Co.*,[191] the exceptions consumed the rule, and the court held that liability extended to all foreseeable consumers. This section will show that liability now extends, under several legal theories, to all foreseeable third parties, including public hospitals.

1. The Hospital as an Injured Bystander

Under the bystander concept,[192] there is precedent for arguing that public hospitals should recover for the cost of providing treatment for illness and disease caused by alcohol and tobacco. The leading case is *Elmore v. American Motors Corp.*[193] In *Elmore*, an American Motors automobile was catapulted across the highway and landed on top of the car in which the plaintiff was a passenger. Inspection revealed that the drive shaft of the American Motors automobile had dropped to the highway from the front of the car, thereby causing the automobile to leap into the lane occupied by the car in which the plaintiff was a passenger. The question presented was whether a third party who was completely unrelated to the sale of the American Motors car—he had not bought the car, he was not a passenger and he had not leased the car—could recover from the defendant American Motors, the manufacturer of the defective vehicle. The court held in favor of the plaintiff:

> It has been pointed out that an injury to a bystander "is often a perfectly foreseeable risk of the maker's enterprise . . . ." If anything, bystanders should be entitled to greater protection than the consumer or user where injury to bystanders from the defect is reasonably foreseeable. Consumers and users, at least, have the opportunity to inspect for defects and to limit their purchases to articles manufactured by reputable manufacturers

190. *See* FRANK J. VANDALL, STRICT LIABILITY AND ECONOMIC ANALYSIS 6-7 (1989).

191. 111 N.E. 1050 (N.Y. 1916).

192. Public hospitals are true bystanders, because they are not involved directly in the sale or consumption of these harmful products. Public hospitals share neither the manufacturer's profits nor the consumer's enjoyment of tobacco or alcohol. They do, however, share the cost component of the health consequences of these products.

193. 451 P.2d 84 (Cal. 1969). *See also* Wasik v. Ford Motor Co., 423 F.2d 44 (2d Cir. 1970); Jackson v. Johns-Manville Sales Corp., 727 F.2d 506, 512 (5th Cir. 1984); Passwaters v. General Motors Corp., 454 F.2d 1270, 1277 (8th Cir. 1972). In 1973, Codling v. Paglia extended strict liability recovery to the bystander. 298 N.E.2d 622 (N.Y. 1973).

> and sold by reputable retailers, where as the bystander ordinarily has no such opportunities.[194]

Likewise, in the instant situation, it is foreseeable to the manufacturers and sellers of tobacco and alcohol that a percentage of their consumers will require treatment in public hospitals. Like the injured bystander in *Elmore*, the public hospital is powerless to prevent the monetary loss resulting from the treatment of indigent patients, and therefore the public hospital is in greater need of protection than the consumer.

A closer case is *Guarino v. Mine Safety Appliance Co.*[195] In *Guarino*, when a worker descended into a sewer to repair it, his gas mask failed him, and he was overcome by noxious gas. Members of the rescue team who descended into the sewer to help the worker also were overcome by gas. The rescuers, as well as the worker, died as a result of a defect in their gas masks that were manufactured by the defendant.

This case raised the question of whether the rescuers could recover their damages, which were caused not only by the defect in their own gas masks but also indirectly by the same defect in the overcome worker's gas mask. The court held in favor of the rescuers:

> Here the defendant committed a culpable act against the decedent Rooney, by manufacturing and distributing a defective oxygen-producing mask, for which it has been held accountable in damages .... By virtue of this defendant's culpable act, Rooney was placed in peril, thus inviting his rescue by the plaintiffs who were all members of Rooney's sewage treatment crew. . . . These plaintiffs responded to the cries for help in a manner which was reasonable and consistent with their concern for each other as members of a crew.
>
> We conclude that a person who by his culpable act, . . . places another person in a position of imminent peril, may be held liable for any damages sustained by a rescuer in his attempt to aid the imperilled victim.[196]

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194. *Elmore*, 451 P.2d at 89 (quoting HARPER & JAMES, THE LAW OF TORTS 1572, n. 6 (1956)). "In short, the bystander is in greater need of protection from defective products which are dangerous, and if any distinction should be made between bystanders and users, it should be made, contrary to the position of the defendants, to extend greater liability in favor of the bystanders." *Id.*; *See also* Codling v. Paglia, 298 N.E.2d 622 (New York 1973).

195. 25 N.Y.2d 460, *aff'd*, 255 N.E.2d 173 (1969).

196. 255 N.E.2d at 175-76. The decision quoted a decision by Judge Cardozo:

Public hospitals can be viewed as rescuers of persons suffering disease and illness caused by alcohol and tobacco. Arguably, the public hospitals should be able to recover their losses just as the rescuers did in *Guarino*.

2. *Corporate Successor Liability*

A recent case in the area of "corporate successor liability" will also be helpful to the public hospitals' argument for shifting their costs to the manufacturers of tobacco and alcohol. The plaintiff, in relation to the actor, is a third party. The case on point is *T & E Industries, Inc. v. Safety Light Corp.*[197] The plaintiff, an owner of radium-contaminated property, successfully alleged that a predecessor in title who was responsible for the contamination was strictly liable for the damages caused by its abnormally dangerous activity.[198] The court held that a landowner engaging in an abnormally dangerous activity was liable not only to contemporaneous neighbors, but to successors in title as well.[199] The ruling reflected two policy considerations: (i) "that such 'enterprise[s] should bear the costs of accidents attributable to highly dangerous [or unusual activities],' " and (ii) "that such enterprises are in 'a better position to administer the unusual risk by passing it onto the public' . . . [and] can better bear the loss."[200]

Thus, another theory for holding the manufacturers of tobacco and alcohol accountable is to treat them as the predecessor corporation or the original cause of the injuries treated by the public hospitals. The fact that there have been other actors along the way (smokers, drinkers) should not sever the manufacturers' liability.

3. *Reasons for Suing Manufacturers, Rather than Indigent Users of Alcohol and Tobacco*

Public hospitals could regard both abusers of alcohol and tobacco and the industries that sold the products as equally culpable in producing the injuries, resulting in uncompensated costs of needed treatment. The industries, however, are the logical target

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"Danger invites rescue. The cry of distress is a summons to relief . . . . The wrong that imperils life is a wrong to the imperiled victim; *it is wrong also to his rescuer.*"

Id. at 175 (emphasis added) (citation omitted).

197. 587 A.2d 1249 (N.J. 1991).

198. 587 A.2d at 1251.

199. *Id.* at 1256-57 (quoting, in part, PROSSER & KEETON ON THE LAW OF TORTS, § 75, at 537 (5th ed. 1984)).

200. *Id.* at 1257.

of litigation. First, they have deeper pockets, since medically indigent patients, even while healthy, are probably too poor to afford insurance premiums. Therefore, these patients are unlikely to be able to afford the staggering costs of treatment after developing serious illnesses. Second, the public hospitals have an obligation as advocates for patients' health and society's welfare, and are justified in considering the patients as victims of the industries' excesses in marketing. Third, and most important, patients arriving at hospitals with serious illnesses caused by alcohol and tobacco often have suffered irreversible damage to their health. Therefore, little is to be gained by punishing them for past actions. In contrast, the industry is in a position to prevent future illness by altering advertisements, warning labels, availability and distribution. They might also redesign their products in order to reverse irresponsible marketing and design to become more consistent with what is required for most consumer industries.

4. Market Share Liability

The courts have wrestled with the issue of whether a party can recover for product liability where it is unclear which particular manufacturer created the product that injured the plaintiff. Some courts have resolved this by imposing liability in proportion to the manufacturer's market share.

Sindell v. Abbott Laboratories[201] dealt with the question of market share liability in the context of injury to an "innocent bystander." In that case, a woman took the drug diethylstilbestrol (DES) in order to prevent a miscarriage. Approximately twenty years later, her daughter, who was *in utero* at the time the mother took DES, developed vaginal cancer. The daughter brought suit against several manufacturers of DES but was unable to show which manufacturer had produced the DES consumed by her mother. The issue presented to the court was whether the daughter could take her case to the jury, against numerous manufacturers, although it was clear that some of the defendants had not manufactured the DES that the plaintiff's mother consumed. The court noted the problem with traditional remedial models:

> In our contemporary complex industrialized society, advances in science and technology create fungible goods which may harm consumers and which *cannot be traced to any specific producer.*

201. 607 P.2d 924 (Cal. 1980), *cert. denied*, E.R. Squibb & Sons, Inc. v. Sindell, 449 U.S. 912.

> The response of the courts can be either to adhere rigidly to prior doctrine, denying recovery to those injured by such products, or to fashion remedies to meet these changing needs.[202]

The court opted for the latter approach, holding that each of the defendants had to prove that it did not actually injure the plaintiff in order to escape liability based on that defendant manufacturer's share of the market. The court thus held for the plaintiff. The court reasoned that the cost of the injury was better borne by the drug manufacturers who made the defective product. The court quoted Justice Traynor in *Escola v. Coca-Cola Bottling Co.*: "[t]he cost of an injury and the loss of time or health may be an overwhelming misfortune to the person injured, and a needless one, for the risk of injury can be insured by the manufacturer and distributed among the public as a cost of doing business."[203] The court concluded that "[t]he manufacturer is in the best position to discover and guard against defects in its products and to warn of harmful effects; thus, holding it liable for defects and failure to warn of harmful effects will provide an incentive to product safety."[204]

Because public hospitals are not permitted to turn away indigent patients, it follows that they are as helpless as the daughter who developed vaginal cancer because of her mother's use of DES. Public hospitals are helpless in two ways. First, they cannot turn away the suffering patient and therefore the cost of treatment, and second, they cannot identify precisely the cigarette manufacturer or alcohol manufacturer that caused their expenditure for treatment. In addition, the reasoning in *Sindell* suggests that the manufacturers of tobacco and alcohol should be liable to the public hospitals because they are better able to bear the loss than the besieged hospitals.[205]

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202. 607 P.2d at 936 (emphasis added).

203. 607 P.2d at 936 (quoting Escola v. Coca Cola Bottling Co., 150 P.2d 436, 441 (Cal. 1944)).

204. 607 P.2d at 936. For cases supporting this theory, see Abel v. Eli Lilly & Co., 289 N.W.2d 20 (Mich. App. 1979); City of Philadelphia v. Lead Industries Ass'n., 994 F.2d 112, 124 (3d Cir. 1993); Garside v. Osco Drug, Inc., 895 F.2d 46, 48 (1st Cir. 1990).

205. The New York Court of Appeals addressed market share liability with respect to DES in Hymowitz v. Eli Lilly & Co. 539 N.E.2d 1069 (N.Y.), *cert. denied* 493 U.S. 944 (1989). Like *Sindell*, the court in *Hymowitz* adopted a market share theory to determine liability and apportion damages when it was impossible to identify the manufacturer of the DES that injured the plaintiff. The New York court held the use of a national market to be fair method of apportioning damages. 539 N.E.2d at 1071.

C. Causation

In lawsuits against alcohol and tobacco manufacturers by public hospitals, it may be difficult in a courtroom to prove that disease in any individual patient treated by the public hospital plaintiff was caused in fact by the consumption of alcohol or the use of tobacco. To determine the burden placed on public hospitals to treat disease caused by the use of alcohol or cigarettes, one must consider the aggregate effect of a vast number of illnesses. On account of the sheer volume of injured individuals and damage, it is beyond the capabilities of courts to evaluate causation for each individual case. Furthermore, public hospitals have neither the resources nor the information required to prove each case caused by alcohol or tobacco. For example, 400,000 deaths each year in the United States, or one death in six, are attributable in part to smoking.[206] Also, one of every ten drinkers abuses alcohol,[207] thereby incurring its health risks. The courts cannot evaluate detailed evidence for the tremendous number of deaths and illnesses caused by alcohol and tobacco.

The public hospitals have a much stronger case with respect to cause in fact[208] than does the individual plaintiff. For example, suppose that, among smokers, 40% of newly-diagnosed cases of heart disease were actually caused by cigarettes.[209] For the individual

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In assessing the fairness of imposing market share liability on a national level, the court stated:

> Instead, we choose to apportion liability so as to correspond to the over-all culpability of each defendant, measured by the amount of risk of injury each defendant created to the public-at-large. . . . Under the circumstances, this is an equitable way to provide plaintiffs with the relief they deserve, while also rationally distributing the responsibility for plaintiffs' injuries among defendants.

Id. at 1078.

Cases dealing with electrical cable, Pennfield Corp. v. Meadow Valley Electric, Inc., 604 A.2d 1082, 1083 (Pa. Super. 1992)(holding that appellant's market share liability arguments are "pernicuous to accepted rules of establishing causation and liability" and "would obviate the well-settled rule that 'alternative liability' will not lie absent some sort of negligent conduct by the potential tortfeasors"), and lead paints, City of Philadelphia v. Lead Industries Assoc., 1992 U.S. Dist 5849, 49 (Dist. Ct. E.D. Pa., 1992)(rejecting market share liability theory because it requires "the abandonment of the requirement of proximate causation"), however, have refused to apply the market share liability theory.

206. ROBERT WOOD JOHNSON FOUNDATION REPORT, *supra* note 1, at 32.

207. *Id.* at 24.

208. "Cause in fact" is defined as "[t]hat particular cause which produces an event and without which the event would not have occurred." BLACK'S LAW DICTIONARY 221 (6th ed. 1990).

209. In actuality, among American smokers in 1976, 92.2% of the 60,000 newly-diagnosed cases of lung cancer and 53.3% of the 250,000 newly-diagnosed cases of

smoker suing for injuries related to heart disease, the defendant cigarette manufacturer will be able to argue that disease may have come from "other causes," such as genetic predisposition, dietary fat or sedentary lifestyle. On average, the defendant manufacturer's position will be correct in 60% of such cases. If the jury, however, interprets the preponderance of the evidence standard as requiring a showing that the defendant is more likely than not at fault,[210] the plaintiff suffering from heart disease will generally fail to demonstrate cause in fact in light of the hypothetical probabilities set forth above.[211]

In stark contrast, for a public hospital treating 100,000 indigent smokers newly-diagnosed with heart disease in the hypothetical example, "only" *40% of the cases* would be caused by smoking. The identity of individual cases is irrelevant to demonstrating cause in fact for 40,000 cases. Unlike the injured individual, the public hospitals need not prove the more difficult assertion that any given patient's disease was in fact caused by smoking. Even allowing that 60% of cases are caused by other factors, the public hospitals should be able to recover the remaining 40% of costs of treating indigent smokers with heart disease. Because the event that causes financial injury to the public hospitals is an aggregate of injuries caused by the defective product, the public hospitals need only show that a substantial number of injuries were caused by smoking, and quantify the resultant costs.

In this regard, public hospitals become a plaintiff "harmed by an aggregate of injuries"—in other words, an epidemic.[212] This fact

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heart disease were attributable to cigarettes. *See* DAVID G. KLEINBAUM ET. AL., EPIDEMIOLOGIC RESEARCH: PRINCIPLES AND QUANTITATIVE METHODS 164-170 (1982). The hypothetical example uses a lower figure to illustrate that cause in fact is more readily demonstrated for the plaintiff injured by an epidemic than for the injured individual.

210. *See* Troyen A. Brennan & Robert F. Carter, *Legal and Scientific Probability of Causation of Cancer and Other Environmental Disease in Individuals*, 10 J. HEALTH POL. POL'Y. LAW 33 (1985). *See also* Bert Black & David E. Lillienfeld, *Epidemiologic Proof in Toxic Tort Litigation*, 52 FORDHAM L. REV. 732, 749-50 (1984).

211. *See* Bert Black, *A Unified Theory of Scientific Evidence*, 56 FORDHAM L. REV. 595, 607-610, 630-631 (1988). Since very few toxic exposures account for 50% of cases of any disease, this standard precludes legal recourse for most hazardous substances. *See, e.g.*, Steve Gold, *Causation in Toxic Torts: Burdens of Proof, Standards of Persuasion, and Statistical Evidence*, 96 YALE L. J. 376, 389-392 (1986). In suits by individual consumers, epidemiologic evidence can be used only to show the type of injury was consistent with those observed in scientific studies. Troyen A. Brennan, *Untangling Causation Issues in Law and Medicine: Hazardous Substances*, 107 ANNALS INTERNAL MED. 741, 744-45 (1987).

212. *See supra*, note 16. Consistent with usage in previous sections I and II, an epidemic is defined as a substantial increase in the occurence of new cases of disease

has major implications with regard to (i) litigation efficiency, that is, minimizing the burdens imposed on courts, (ii) standards and methods of proof in terms of maintaining quality and scientific validity of legal evidence, and (iii) the scope of liability, in order to avoid impingement on industries whose actions do not compromise public health.[213]

Statistical methods can readily quantify the probability that an epidemic has occurred.[214] The analysis must consider not only exposure to the defective product, but also a reasonable number of plausible alternative explanations, called "potential confounding variables," "nuisance variables" or simply "confounders."[215] After

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caused by a defective product. This definition reflects that, in a number and fraction of attributable deaths and disease, substance abuse at current levels in the U.S. resembles epidemics of infectious diseases during preindustrial times. *See, e.g.*, Council on Scientific Affairs, American Med. Ass'n., *The Worldwide Smoking Epidemic: Tobacco Trade, Use, and Control*, 263 JAMA 3312 (1990); American College of Physicians, *Cigarette Abuse Epidemic*, ACP OBSERVER, June 1986, at 1. These epidemics represent the health consequences of market and regulatory failures. James M. Carman & Robert G. Harris, *Public Regulation of Marketing Activity, Part 1: Institutional Typologies of Market Failure*, 3 J. MACROMARKETING 41 (1983); James M. Carman & Robert G. Harris, *Public Regulation of Marketing Activity, Part 2: Regulatory Responses to Market Failure*, 4 J. MACROMARKETING 41 (1984); James M. Carman & Robert G. Harris, *Public Regulation of Marketing Activity,Part 3: A Typology of Regulatory Failures and Implications for Marketing and Public Policies*, 6 J. MACROMARKETING 51 (1989). With accountability for substance abuse shifted entirely to users, the alcohol and tobacco industries can ignore the accumulation of vast numbers of product-attributable injuries.

213. Rigorous scientific methods clearly contribute substantially to the objectivity of the legal evidence, but have to be balanced against other tradeoffs. Peter Huber espouses an extreme position that sacrifices rights to legal redress and deterrence of corporate excesses in favor of rigorous scientific standards of proof, litigation efficiency, and economic efficiency. *See* PETER HUBER, GALILEO'S REVENGE: JUNK SCIENCE IN THE COURT ROOM (1991). Jeffrey Trauberman, due to the difficulties of applying epidemiologic principles to individual litigants, advocates the opposite extreme, which would significantly weaken scientific standards used in civil litigation. *See* TRAUBERMAN, *supra* note 153, at 177. Our position strives to attain all these goals, reconciling scientific and legal frameworks by identifying a "plaintiff harmed by an epidemic" (i.e., public hospitals). Such a plaintiff (1) suffers economic injury rigorously provable using epidemiologic principles (thereby maintaining scientific standards of proof), (2) summarizes many individual injuries in a single legal action (litigation efficiency), (3) does not impinge on industries that do not cause epidemics (economic efficiency), (4) allows legal redress for huge economic losses that previously could not be recovered, and (5) provides legal deterrence against companies that cause costly epidemics.

214. *See, e.g.*, CHARLES H. HENNEKENS ET AL., EPIDEMIOLOGY IN MEDICINE (1987); KENNETH J. ROTHMAN, MODERN EPIDEMIOLOGY (1986); HAROLD A. KAHN & CHRISTOPHER T. SEMPOS, STATISTICAL METHODS IN EPIDEMIOLOGY (1986); JAMES J. SCHLESSELMAN, CASE-CONTROL STUDIES: DESIGN, CONDUCT, ANALYSIS (1982).

215. *See generally* DAVID G. KLEINBAUM ET AL., APPLIED REGRESSION ANALYSIS AND OTHER MULTIVARIABLE METHODS 169-70 (1988); JOHN NETER ET AL., APPLIED

adjusting for these variables, the "relative risk" measures how much more likely it is for disease to occur among those exposed to the product (compared to those not exposed).[216] A simple formula then determines the "attributable risk,"[217] which is defined as the fraction of exposed cases in which the disease is actually linked to the product exposure.[218] Similar computations lead to "attributable costs", i.e., the total costs linked to product exposure.[219]

LINEAR REGRESSION METHODS (1989). Nuisance variables mentioned above for heart disease include genetic predisposition, dietary fat, sedentary lifestyle, etc. While the number of potential confounders is in principle infinite, each study manages to collect and analyze a finite, relatively small number of such nuisance variables. This point illustrates the need for multiple, partially overlapping studies with criteria for causal inference, described further below. An additional calculation, using the formula in Hennekens, *supra* note 191 at 88, is used here to convert tabular data (showing relative risks associated with smoking of 12.86 and 2.14 for lung cancer and heart disease, respectively) to the attributable risk percentages shown above (92.2% and 53.3%, respectively). *See also* KLEINBAUM, *supra* note 209, at 164:

For lung cancer, attributable risk = (12.86 – 1) / 12.86 = 0.922 = 92.2%

For heart disease, attributable risk = (2.14 – 1) / 2.14 = 0.533 = 53.3%

216. For American smokers in 1976, relative risks associated with smoking were 12.86 for lung cancer and 2.14 for heart disease. *See* KLEINBAUM, *supra* note 209. Thus, compared to nonsmokers, smokers were 12.86 times as likely to develop lung cancer and 2.14 times as likely to develop heart disease.

217. Considering only exposed individuals, such as smokers or heavy drinkers, the exposure-related risk of disease is given by the following:

Attributable risk = (relative risk –1) / relative risk.

CHARLES H. HENNEKENS ET AL., EPIDEMIOLOGY IN MEDICINE 88 (1987).

218. In individual injuries—but not for demonstrating an epidemic, as will be shown shortly—attributable risk is the measure usually compared with the standard of proof. *See* Brennan, *supra* note 211; Brennan & Carter, *supra* note 210; Gold, *supra* note 211. In the example above, the attributable risk was 0.40, i.e., 40% of smokers developed heart disease as a result of smoking, which falls somewhat short of the "more likely than not" standard of >50% applicable to an individual plaintiff.

219. The Centers for Disease Control and Prevention have developed computer software to measure disease incidence, mortality and costs associated with alcohol and tobacco. OFFICE ON SMOKING AND HEALTH, U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION, SAMMEC II: SMOKING-ATTRIBUTABLE MORBIDITY, MORTALITY, AND ECONOMIC COSTS. COMPUTER SOFTWARE AND DOCUMENTATION (Oct. 1990) (software available with CDC); JAMES M. SCHULTZ ET. AL., U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION, ARDI: ALCOHOL-RELATED DISEASE IMPACT SOFTWARE. COMPUTER SOFTWARE AND DOCUMENTATION (Oct. 1989) (software available with CDC).

For each such measure (relative risk, attributable risk, attributable costs), we can obtain a "point estimate" (i.e., an average value) and a "standard error" (which measures the variability of the sample's point estimate). From these are obtained two final measures which quantify the probability that an epidemic has occurred. The first is the "P-value", which is the probability that the resulting point estimate (or one even more extreme) might have occurred by chance alone. The second is the "confidence interval", which measures the range of values to which the point estimate is confined, within a specified probability. The P-value and confidence interval represent the relevant measures of the statistical precision of the study, to compare against standards of

No single statistical study provides proof of causation. While it is ethically unacceptable to conduct human experimental studies involving exposure to hazardous substances or conditions, there are alternative criteria suitable for causal inference in epidemiology.[220]

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proof in demonstrating the existence of an epidemic. In the example cited above, consider the hypothetical (but reasonable) instance whereby the point estimate for attributable risk is 0.40 and has a P-value of 0.001, or 10-3. This means that the probability of having obtained by chance alone an attributable risk of 40% (or greater) is 1 in 1000, or 0.01%. Conversely, the probability that the attributable risk was not obtained by chance alone is 99.9%, which clearly exceeds the >50% "more likely than not" threshold. Thus, in establishing an epidemic, the P-value, and not the attributable risk, is the relevant measure to compare against standards of proof. This observation allows recovery by societal infrastructures for rare diseases caused by harmful exposures, without compromising standards of proof or scientific validity, or awarding only partial damages. Corresponding to the P-value is a confidence interval, e.g., hypothetically, an attributable risk between 0.395 and 0.405 (between 39.5% and 40.5%) with probability 95%.

Because an individual has much larger standard errors, the P-value and confidence intervals are much larger, corresponding to much higher likelihood of having obtained the result by chance and much less precision in knowing the true point estimate. Thus, in the above example, the P-value for a given individual might be 0.8 (80% chance of having obtained the result by chance alone) and the 95% confidence interval completely uninformative (i.e., attributable risk anywhere between 0 and 1). For this reason, the P-value and confidence interval rarely apply to the injured individual, unless variability is extremely small (as with pathognomonic diseases, like vaginal carcinoma in offspring exposed in utero to DES or mesothelioma among asbestos workers).

The point estimate of association between disease and exposure represents the "fact probability" of a case, while the confidence interval (for an aggregate) or prediction interval (for an individual) represents "belief uncertainty." In large samples, belief uncertainty for an aggregate (i.e., confidence interval) tends toward zero and evidence probability collapses to a single measure, the fact probability. On the other hand, regardless of sample sizes of relevant scientific studies, belief uncertainty for an individual (i.e., prediction interval) remains virtually unchanged, so the evidence probability retains large uncertainty about the fact probability. GOLD, *supra* note 206, at 376. For comparison with Gold's usage, we use the term "belief uncertainty" to denote the complement of "belief probability," that is, the belief uncertainty = 1 – belief probability.

On a more intuitive level, the numbers of injuries inflicted by these industries have exceeded a threshold where each individual one must be proven. Instead, the sheer weight of the damages in itself becomes proof. This philosophy has a basis in environmental statutes, such as Superfund, and CERCLA, 42 U.S.C. §§ 9604-05, 9611-12; and 42 U.S.C. § 9607, which hold industries responsible for "cradle-to-grave" handling of toxic chemicals. This approach to proof reflects the notion that prevention of toxic spills is much better than retroactive cleanup, and that those who might suffer resultant degradation of their environment are not additionally saddled with the burden of proving, "tree-by-tree", that the injury resulted from the toxic spill.

220. These criteria—which represent a "wish list" more than a "checklist"—are (1) strength of association: the magnitude of the point estimate of risk (for example, higher for lung cancer than for heart disease in the example given *supra* note 164); (2) dose-response gradient, i.e., higher exposure leads to greater intensity or probability of disease; (3) temporal relationship: cause precedes effect; (4) consistency of find-

Using these criteria, hundreds of thousands of studies have demonstrated, under widely varying settings, consistent association between alcohol or tobacco exposure and many different diseases.[221]

The cause-in-fact requirement has proven to be a road block for plaintiffs in litigation against cigarette manufacturers.[222] Indeed, the wave of new cigarette suits by individuals has practically disappeared.[223] Significantly, the famous *Cipollone v. Liggett Group* suit was voluntarily withdrawn, in spite of the plaintiff's "partial victory" in that numerous causes of action were not preempted by the Supreme Court.[224]

Cigarette suits continue apace: the manufacturers continue to be sued by smokers with cancer,[225] flight attendants have brought a passive smoke class action against several manufacturers,[226] a consortium of lawyers have brought a class action for fraud based on the manipulation of the nicotine levels in cigarettes,[227] and a suit seeks recovery for fraud on the part of the council for Tobacco Research.[228]

Proving cause in fact through statistics is not a new legal concept. In the famous *"Agent Orange"* case, Judge Weinstein encouraged the parties to settle by warning that statistical evidence of cause in fact would be admitted if the case went to trial.[229] The admission of such evidence, Judge Weinstein explained, required choosing be-

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ings: reproducibility under different study methods, time periods, and populations; (5) biological plausibility: reasonable mechanisms that can explain the observed effects; (6) coherence of evidence: accordance with understanding of the natural history of the disease; (7) specificity of association, i.e., if the association is limited to specific workers, (8) experimental evidence—for example, if a preventive action has the expected effect in reducing risk; and (9) analogy, i.e. to judge by analogy of effects of similar drugs. Austin B. Hill, *The Environment and Disease: Association or Causation?*, 58 PROC. ROYAL SOC. MED. 295, 296-99 (1965); Mervyn Susser, *What is a Cause and How Do We Know One? A Grammar for Pragmatic Epidemiology*, 133 AM. J. EPIDEMIOLOGY 635, 636-39, 641 (1991).

221. *See* 25 YEARS OF PROGRESS, *supra* note 44; ALCOHOL AND HEALTH *supra* note 40.

222. *See* William E. Townsley & Dale K. Hanks, *The Trial Court's Responsibility to Make Cigarette Disease Litigation Affordable and Fair*, 25 CAL. W. L. REV. 275 (1988).

223. *Id.* at 276, 277. *See also* Frank J. Vandall, *Reallocating the Costs of Smoking: The Application of Absolute Liability to Cigarette Manufacturers*, 52 OHIO ST. L.J. 405, 410 (1991).

224. *See* Cipollone v. Liggett Group, Inc., 112 S.Ct. 2608 (1992).

225. *See* Vandall, *supra* note 218.

226. Glen Collins, *Air Crews Can Sue on Smoke*, N.Y. TIMES, Dec. 13, 1994, at D1.

227. Mark Curriden, *The War Against Cigarettes*, ATLANTA J. AND CONST., Apr. 17, 1994, at G1.

228. Haines v. Liggett Group, 975 F.2d 81 (3d Cir., 1992).

229. In re "Agent Orange" Product Liability Litigation MDL No. 381, 597 F. Supp. 740 (E.D.N.Y. 1984).

tween a "strong" version of the traditional preponderance-of-the-evidence rule and a "weak" version.[230] Under the "strong" version, in order for a verdict to have a sufficient legal basis, statistical evidence of causation must be accompanied by "particularistic" evidence providing direct and actual knowledge of the causal relationship between the defendant's tortious conduct and the plaintiff's injury.[231] In the "weaker" version, statistical evidence alone provides a sufficient legal basis for a verdict.[232] Judge Weinstein concluded that in cases involving mass exposure to a harmful substance, the likelihood of obtaining particularistic evidence would be low, and therefore, the tortfeasor would escape liability. Thus, the "weak" version of the preponderance rule, requiring only statistical evidence to prove cause in fact, was determined to be the applicable standard in mass exposure cases.

Statistical proof of causation was admitted in *Allen v. United States*, in which the plaintiffs sought to recover for injury allegedly caused by governmental testing of nuclear bombs.[233] The district court judge noted the difficulty in determining cause in fact in light of the nature of injuries suffered, the nature of the alleged causation mechanism, time factors and other variables.[234] The court accepted statistical proof that the various injuries had in fact been caused by radiation from nuclear testing and found the "defendant

230. In re "Agent Orange" Product Liability Litigation MDL No. 381, 597 F. Supp. at 835.

> Traditional tort principles would dictate that causation be determined on a case-by-case basis using the preponderance-of-the-evidence rule. The rule provides an " 'all or nothing' approach, whereby [assuming all other elements of the cause of action are proven], the plaintiff becomes entitled to full compensation for those . . . damages that are proven to be 'probable' (a greater than 50 percent chance), but is not entitled to any compensation if the proof does not establish a greater than 50 percent chance." *Id.* (citations omitted).

231. *Id.*

232. *Id.* For a more detailed discussion of these issues, see Bert Black, *A Unified Theory of Scientific Evidence*, 56 FORDHAM L. REV. 595, 672 (1988); Joseph King, *Causation, Valuation, and Choice in Personal Injury Torts Involving Preexisting Conditions and Future Consequences*, 90 YALE L. J. 1353 (1981); Jeffrey Trauberman, *Statutory Reform of Toxic Torts: Relieving Legal, Scientific, and Economic Burdens on the Chemical Victim*, 7 HARV. ENVTL. L. REV. 177 (1983); Pamela J. Strand, Comment, *The Inapplicability of Traditional Tort Analysis to Environmental Risks: The Example of Toxic Waste Pollution Victim Compensation*, 35 STAN. L. REV. 575, 583 (1983).

233. Allen v. United States, 588 F. Supp. 247 (D. Utah, 1984), *rev'd on other grounds*, 816 F.2d 1417 (10th Cir. 1987), *cert. denied*, 484 U.S. 1004 (1988).

234. *Id.* at 405.

unreasonably placed plaintiffs or their predecessors at risk of injury and as a direct and proximate result" of its actions.[235]

D. Possible Defenses

1. Intervening Cause

Proximate cause may be a substantial hurdle for public hospitals that seek to recover for the costs of treating patients with injuries, illness and disease brought about by tobacco and alcohol use. The defendant manufacturers will suggest that the main cause of the public hospitals' losses was the free will exercised by consumers in choosing to consume alcohol and tobacco. This is an intervening cause defense.[236] The intervening cause argument suggests that the liability of a defendant should be cut off because a subsequent cause from a different source severed the liability of the original wrongdoer, in this case the manufacturers of alcohol or tobacco.[237] With regard to intervening cause, however, liability will not be severed by negligent intervening causes. Rather, intervening causes must be intentional or criminal in order to negate the liability of the first party.[238] For example, in suits brought by public hospitals, the manufacturers of alcohol and tobacco may assert that they are not liable because the proximate cause of the patients' illnesses and

235. *Id.* at 447. In calculating damages the court followed the rules of the appropriate states. *Id.* at 443-46.

236. Intervening cause is defined as "an independent cause which intervene between the original wrongful act omission and the injury, turns aside the natural sequence of events, and produces a result which would not otherwise have followed and which could not have been reasonably anticipated." BLACK'S LAW DICTIONARY 820 (Abr. 6th ed. 1991). Some cases ask why the defendant should be relieved of liability for harm for something "as to which the defendant's conduct is a cause, along with other causes?" PROSSER & KEETON, *supra* note 159, at 301. The Restatement has labeled this problem in terms of whether there is a "superseding cause": "A superseding cause is an act of a third person or other force which by its intervention prevents the actor from being liable for harm to another which his antecedent negligence is a substantial factor in bringing about." RESTATEMENT (SECOND) OF TORTS § 393 (1986).

237. PROSSER & KEETON, *supra* note 154, § 44, at 301-18.

238. *See* Watson v. Kentucky & Indianna Bridge & R.R. Co., 126 S.W. 146 (Ky. Ct. App. 1910); Kush v. City of Buffalo, 449 N.E.2d 725 (N.Y. 1983). To be sure, this is an oversimplified statement of what will be an intervening cause. The general rule is that "[i]f the intervening cause is one which in ordinary human experience is reasonably to be anticipated, or one which the defendant has reason to anticipate under the particular circumstances", then the defendant may be negligent because of failure to guard against it. PROSSER & KEETON, *supra* note 159, § 44, at 303. Thus, if the defendant might reasonably anticipate an intervening *intentional* or criminal act to occur, and failed to take proper precautions to prevent the act from occurring, the defendant may still be liable. *Id.* at 305. Thus, in the case of tobacco or alcohol manufacturers, this cut-off theory of liability may fail.

diseases is actually the patients' knowing and intentional consumption of alcohol and tobacco.

There are several responses to the manufacturers' intervening cause argument. The first is that, especially with respect to tobacco, the consumer patients are addicted.[239] In addition, the free will of consumers is overcome by the aggressive marketing and advertising of tobacco and a relentless attempt to glorify smokers as mature, successful and sexy.[240] There is a great deal of research on this subject suggesting that alcohol and tobacco manufacturers knowingly create an atmosphere that increases availability of their products, facilitates experimentation, and then makes it extremely difficult for addicted consumers to stop.[241] In particular, the medical literature acknowledges that certain people are likely to become addicted to alcohol because of heredity. The manufacturers of alcohol studiously avoid warning these consumers of the risk, making their products easily available to people who have a high likelihood of becoming addicts.[242] Thus, the role of the manufac-

239. The 1989 Surgeon General's Report concluded: "(1) Cigarettes and other forms of tobacco are addicting. (2) Nicotine is the drug in tobacco that causes addiction. (3) The pharmacologic and behavioral processes that determine tobacco addiction are similar to those that determine addiction to drugs such as heroin or cocaine." 25 YEARS OF PROGRESS, *supra* note 44, at 78. In the definition of alcoholism, the National Council of Alcoholism and Drug Dependency and the American Society for Addiction Medicine state "[Alcoholism] is characterized by continuous or periodic: impaired control over drinking, preoccupation with the drug alcohol, use of alcohol despite adverse consequences, and distortions in thinking, most notably, denial." Eric W. Larson, *Alcoholism: The Disease and the Diagnosis*. 91 AM. J. MED., 107, 108 (1991).

240. *See* John P. Pierce et al. *Does Tobacco Advertising Target Young People to Start Smoking?*, 266 JAMA 3154 (1991).

241. *See, e.g.*, Peter J. DePaulo, *Research on Deception in Marketing Communications: Its Relevance to the Study of Nonverbal Behavior*, 12 J. NONVERBAL BEHAV. 253 (1988); Tom Colthurst, *How We Learn About Alcohol, Tobacco, and Other Drugs: Mass Media as Teacher*, PREVENTION FILE, Winter 1992, at 13; John F. Quinn, *Moral Theory and Defective Tobacco Advertising and Warnings*, 8 J. BUS. ETHICS 831-40 (1989). Alcohol manufacturers have progressively increased availability and decreased costs of their products over the past five decades, so they are virtually ubiquitous in grocery and convenience stores and vending machines and regarded as commonplace and innocuous as soft drinks. *See* Richard Cowan & James F. Mosher, *Public Health Implications of Beverage Marketing: Alcohol as an Ordinary Consumer Product*, 12 J. DRUG POL'Y 621, 644-46 (1985). This marketing strategy has been an essential part of breaking down social barriers to consumption and extending cues for consumption to everyday events. See James F. Mosher & David H. Jernigan, *New Directions in Alcohol Policy*, 10 ANN. REV. PUB. HEALTH 245-79 (1989). The addicted consumer trying desperately to quit cannot escape ubiquitous, unwanted cues to consume alcohol and cigarettes and the constant temptation to buy.

242. *See* J. Craig Andrews et. al., *Believability and Attitudes Toward Alcohol Warning Label Information: The Role of Persuasive Communications Theory*, 9 J. PUB.

turers in purposefully subordinating the free choice of the consumers of alcohol and tobacco should convince a court or jury not to sever the liability of these manufacturers for the costs incurred by public hospitals in treating medically indigent patients suffering from the consequences of alcohol or tobacco abuse.[243]

2. *Settled Expectations*

The manufacturers of alcohol and tobacco may argue that the "settled expectations" of society mandate that the cost of emergency services should be covered by taxes, and thus the government, and not the manufacturers, should provide emergency response services free of charge.[244] This "settled expectations" argument, however, has in the past been applied solely to the emergency response to airplane or train disasters because the majority

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POL'Y MARKETING 1 (1990); Sandra J. Ducoffe Smith, *The Impact of Product Usage Warnings in Alcoholic Beverage Advertising*, 9 J. PUB. POL'Y MARKETING 16 (1990); Michael B. Mazis et. al., *An Evaluation of the Alcohol Warning Label: Initial Survey Results*, 10 J. PUB. POL'Y MARKETING 229 (1991); Debra L. Scammon et. al., *Alcohol Warnings: How Do You Know When You Have Had One Too Many?*, 10 J. PUB. POL'Y MARKETING 214 (1991).

The lobbying of alcohol manufacturers on behalf of a medical instead of a prevention model of alcohol abuse has been another calculated strategy to increase availability and shift blame from the industry to the consumer. *See* HERBERT FINGARETTE, THE MYTH OF ALCOHOLISM AS A DISEASE (1988). The medical model of alcohol abuse, which maintains that alcohol abuse is a rather mysterious medical ailment unrelated to marketing which strikes consumers at random, is a self-serving strategy that clearly puts the burden for treating addiction onto public hospitals and attempts to absolve the industry of egregious violations of promoting harmful products. Increasingly, this model has been challenged as wrong and costly to society's interests. *See* Stanton Peele, *A Moral Vision of Addiction: How People's Values Determine Whether They Become and Remain Addicted*, 17 J. DRUG ISSUES 187, 188-189 (1987); Herbert Fingarette, *Alcoholism: The Mythical Disease*, 91 PUB. INTEREST 3, 3-5 (1988). Ironically, the originator of the medical model cautioned against its indiscriminate use, because it might obstruct social norms against alcohol abuse. *See* Elvin M. Jellinek, *Phases of Alcohol Addiction*, 13 Q. J. STUD. ALCOHOLISM 673 (1952); Elvin M. Jellinek & Norman Jolliffe, *Effects of Alcohol on the Individual: Review of the Literature of 1939*, 2 Q. J. STUD. ALCOHOLISM 584 (1940). Further, persons treated in public hospitals who are injured by alcoholics or smokers, such as low birth-weight infants or pedestrians who are struck by drunk drivers, have not taken any affirmative act of their own.

243. A recent report found that persons addicted to cigarettes experience an even higher relapse rate than heroin addicts. *See* Hunt & J. D. Matarazzo, *Three Years Later: Recent Developments in the Experimental Modification of Smoking Behavior*, 81 J. ABNORMAL PSYCHOL. 107, 108 (1973). In 1980, the American Psychiatric Association's diagnostic manual, the medical profession's accepted authority on addiction, included the disorder of "tobacco dependency". *See* AMERICAN PSYCHIATRIC ASS'N, TASK FORCE ON NOMENCLATURE AND STATISTICS, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS § 305.1, at 176-78 (3d ed. 1980).

244. *See supra* note 157, and accompanying text.

of the population use these services and would not challenge the government's assumption of the costs of providing emergency services.

On the other hand, non-abusers of tobacco and alcohol would probably not want their tax dollars depleted in order to aid smokers and drinkers. In other words, the traditional reasons for denying liability to the tortfeasor would not apply to manufacturers of alcohol and tobacco because taxpayers do not have the "settled expectation" of paying for the consequences of the habits of a *select* population, those injured by alcohol and tobacco use, thereby subsidizing the alcohol and tobacco industries.

V. Recent Developments

The filing of a suit in Mississippi[245] and the signing into law of legislation in Florida in May, 1994,[246] provide support for the theory that the states are beginning to recognize the need to recover tobacco-caused damages from the manufacturers and others.

A. Health Care Reform

The concept of shifting the losses borne by public health facilities to the alcohol and tobacco manufacturers parallels President Clinton's suggestions to finance his proposed national health insurance system through substantial federal excise taxes on cigarettes.[247] Although the President's health insurance proposal could do much for individuals who need treatment, it is not clear what the impact will be upon public hospitals.

In contrast, public hospitals should be able to obtain reimbursement from alcohol and tobacco manufacturers for costs expended

245. Mississippi v. (17 Tobacco Defendants's), *published in* N.Y. TIMES, May 24, 1994, at A12.

246. Linda Kleindienst & John Kennedy, *Law Declares Medicaid War on Tobacco*, ORLANDO SENTINEL, May 27, 1994, at C1.

247. *See* Nancy Benac, *Clinton Touts Cigarette Tax Hike, Worker Care as 'Good Business,'* ATLANTA J. & CONST., Oct. 22, 1993, at C1. An earlier article in this same newspaper lamented the fact that Clinton's tax hike was a "tobacco only" policy. The author of the article believed that "Clinton's omission of 'health taxes' on *alcohol* from his funding formula for health-care reform is a missed opportunity to address America's most serious public health and drug problem - alcoholism." *Health-Care Reform: President Clinton's Plan Generates New Debate on Government's Role in Matters of Life and Death*, ATLANTA J. & CONST., Oct. 2, 1993, at A17 [hereinafter *Clinton Generates Debate*]. The author quotes statistics stating that 50 percent of the alcohol industry's profits come from alcoholism, and that to one in every ten drinkers, alcohol is a very addictive drug. *Id. See also supra* notes 21 and 99, and accompanying text. The Clinton administration originally planned to tax alcoholic beverages, but appears to have relented to political pressures and industry lobbying. *Id.*

to treat persons suffering illness and disease brought on by alcohol and tobacco use. Whereas Clinton's proposal is to tax only cigarettes, this Article argues that both alcohol and tobacco manufacturers should bear the costs expended by public hospitals to treat victims.[248] In December of 1994, it is not clear that national health insurance will be adopted.

B. Mississippi Suit in Equity

On May 24, 1994, Mississippi filed a suit in Chancery to recover the expenses of Medicaid expended by the state in the treatment of smokers.[249] The equitable action for unjust enrichment and indemnity was brought against seventeen defendants including thirteen cigarette manufacturers, a tobacco public relations firm, and the Tobacco Research Institute.[250]

The theory of the suit, as explained by Mississippi Attorney General Mike Moore is: "[Y]ou caused the health crisis you pay for it . . .."[251] Moore added that "[i]t's time these billionaire tobacco companies start paying what they rightfully owe to Mississippi taxpayers."[252] One law professor addressed the possibility of traditional defenses by stating, "The advantage of this kind of suit . . . is that the state wouldn't have to worry about all the defenses that an individual has had to worry about in the past . . . ."[253] Victor Schwartz of the Product Liability Alliance in Washington, in a less traditional defense, suggested that businesses should share the cost of medical insurance by paying taxes, rather than through the courts.[254]

The Mississippi case raises the issue of statistical, as compared with traditional, cause in fact. The plaintiffs' lawyers "intend to sue on behalf of Mississippi taxpayers as a whole, using statistical anal-

248. *See Clinton Generates Debate, supra* note 247, at 21. The Clinton Health Care Plan is continuing to fuel debate and meet obstacles to its passage. One of the biggest concerns of the plan is how its costs would be covered. Donald Lambro, *Industry Experts Agree on Need For Reform But Say the President's Method Will Cost Too Much and Limit Choice*, WASH. TIMES, Oct. 3, 1993, at A1.

249. Michael Janofsky, *Mississippi Seeks Damages From Tobacco Companies*, N.Y. TIMES, May 24, 1994, at A12.

250. *Id.*

251. *Id.*

252. *Id.*

253. Sarah C. Campbell, *Mississippi Sues Tobacco Firms for Recovery of Medical Costs*, THE COM. APPEAL, May 24, 1994, at A1. (quoting Robert L. Rabin of Stanford).

254. *Id.*

yses to show the percentage of welfare recipients who got sick from smoking."[255]

Bringing the suit in equity is an innovative tactical move on the part of Mississippi's legal team, as it shifts the discussion away from the nature of the cause of action,[256] focusing instead on the fundamental policy question: "Who should pay?" With the state, rather than individual smokers, as the plaintiff, the strength of the statistical approach to cause in fact is also made clear.[257] Large numbers of patients have been injured and taxpayers have paid for their treatment. Suits by each patient would clog the courts. Suits by the state avoid the waste of time and money involved in trying each smoker's issue of cause in fact.[258]

C. Florida Legislation

On May 26, 1994, Governor Lawton Chiles of Florida signed into law a bill permitting the state to sue cigarette manufacturers for the Medicaid expenses paid by the state for illnesses caused by smoking.[259] The potential recovery is substantial: according to one estimate, Florida spent $1.2 billion in Medicaid since 1989 to treat Floridians who are ill on account of smoking.[260] During fiscal year 1992-3 alone, these costs were $289 million.[261] State officials estimate that "[e]very day in Florida, 35 people die from a smoking-related illness."[262]

The Medicaid Third-Party Liability Act expressly eliminates the key defenses available to cigarette manufacturers: "Principles of common law and equity as to . . . comparative negligence, assumption of risk, and all other affirmative defenses normally available to a liable third party are to be abrogated to the extent necessary to ensure full recovery by Medicaid from third-party resources . . .."[263] The newly created Medicaid Fraud Control Office, an agency in the

255. Junda Woo, *Mississippi Wants Tobacco Firms to Pay Its Costs of Treating Welfare Recipients*, WALL ST. J., May 24, 1994, at A2, A6.

256. *See, e.g.*, Cipollone v. Liggett Group, Inc., 112 S.Ct. 2608 (1992). *See also* Frank J. Vandall, *Reallocating the Costs of Smoking: The Application of Absolute Liability to Cigarette Manufacturers*, 52 OHIO ST. L.J. 405 (1991).

257. *See supra* part IV C.

258. The tobacco companies, however, in rejecting the mass tort concept, will likely argue "that the state will have to sue on behalf of each Medicaid patient separately, instead of as a class." Woo, *supra* note 255, at A2, A6.

259. Kleindienst & Kennedy, *supra* note 246.

260. *Id.*

261. *Id.*

262. *Id.*

263. 1994 Fla. Laws ch. 251.

Department of Legal Affairs, "can proceed to seek recovery based upon payment made on behalf of an entire class of recipients."[264] The Act is unique in expanding traditional cause in fact by providing that "[t]he issue of causation and damages in any such action may be proven by use of statistical analysis."[265] Anticipating the problem of the person who has smoked numerous brands of cigarettes, the Act adopts the *Sindell* rule of market share liability.[266]

In addition, the Act provides for a class action: "The agency has a cause of action against a liable third party to recover the full amount of medical assistance provided by Medicaid, and such cause of action is independent of any rights or causes of action of the recipient."[267]

The legislation, however, does not expressly mention cigarettes or smokers. Indeed, according to Governor Chiles, "[t]he bill had to be sneaked through because of the strength of the special interests when you're trying to do something up here."[268] Tobacco industry representatives have promised the act will be subject to a constitutional challenge.[269]

The new Florida legislation expressly acknowledges that the tobacco manufacturers have successfully shifted the costs of smoking to the taxpayer, setting up a mechanism to recover these expenditures. To accomplish this goal, the legislation provides for statistical proof and eliminates several linchpin defenses. The Florida Act could become a model for other states.

Suits by public hospitals avoid a problem that Florida will face in the courts. When people die young from tobacco induced cancer or liver damage from alcohol, the Medicaid system is saved the cost

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264. *Id.*

265. *Id.*

266. *Id.*; Sindell v. Abbott Lab., 607 P.2d 924 (1980). *See* discussion *supra* part IV. B. 4.

267. 1994 Fla. Laws ch. 251. In addition, treble damages are recoverable if the state can show fraud on the part of the cigarette manufacturers. This includes lying in regard to safety, lying to a state regulatory agency or manipulating the amount of nicotine. *Id.*

268. Bill Moss, *Chiles Signs Anti-Tobacco Measure*, ST. PETERSBURG TIMES, May 27, 1994, at 1A.

269. *See* Kleindienst & Kennedy, *supra* note 246. Constitutional challenges to the Florida Act are expected to take two forms. First, "the law is unconstitutional because it unfairly strips the industry of the traditional defenses it has used . . . in the past," and second, "the law violates the industries' equal protection rights." Mary Ellen Klas, *Tobacco Industry Vows to Fight New Liability Law*, PALM BEACH POST, May 27, 1994, at 10A.

of treating them later. Early deaths do not save the public hospital anything.[270]

VI. Conclusion

Hopefully, responses such as the Mississippi litigation and the Florida legislation will become models for other states. Action is necessary because economic analysis suggests that the cost of treating the illness and disease caused by alcohol and tobacco use is an externality that should be shifted to and internalized by the manufacturers of alcohol and tobacco, or spread among consumers through higher prices for these goods. Legal analysis of the problem requires a careful evaluation of well-known concepts, but it does not involve any theoretical breakthroughs, except perhaps in regard to statistical proof.[271]

The proposed litigation by public hospitals would pose no additional burden on industries that do not cause epidemics. If the alcohol and tobacco industries had not ignored for decades the sheer volume of harm they were inflicting on society, they would not be subject to this litigation now. The manufacturers apparently thought they could act with impunity because they were shielded from liability from actions by injured individuals, but this attitude has resulted in a huge burden of disease and expense that threatens to crush vital societal infrastructures. Simply stated, alcohol and tobacco manufacturers can be targeted in this manner based on the sheer volume and impact of damage on public hospitals.

The manufacturers of alcohol and tobacco have benefitted from an unexpressed and unacknowledged public subsidy in terms of the absorption of alcohol and tobacco-related expenses by public hospitals. The time has come to evaluate the issues involved in such a hidden subsidy and to consider whether public hospitals and society's infrastructures should continue to bear these costs or instead shift them onto the industries that cause these widespread problems.

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270. *See supra* note 80.

271. Since this is a preliminary examination of the question of suits by public hospitals, the logistics of such suits (would they sue every year or every ten years) seem appropriate for later consideration.